THE THE SEE SHEET OF STREET STREET



79 5 229 25 289 45 349 65 85 469 105 529 125 589 158 409 GGT L CTA D GAC F TTC F TTC GGC GTCGACCCACGCGTCCGGGGAGCGCGCGTAAGAGTGCCGCACCGCCTCACAACCTGGGAACCGGAGAGTAGGGGCCGTC GTG E GAG \gt L CTG A GCG CIC V GTC L $_{
m LTG}$ S GGC D GAC TACT PCCC A GCG \mathbb{M} D GAC AGCI R CGG A GCC A GCG T ACC PCCG CCC $_{
m TTG}$ GGT L A GCT ಠ ATG T ACC TGG L CTG T ACG Σ C TGC PCCT 3 GTCCTGAACTGCAACCTGCACAGAGCTGCTCTGTACTGTCCCTGGTGGTCGCCGCC g GGC . GGC N AAC I ATC A GCG $\frac{L}{TTA}$ $_{
m L}$ CTGTE GAG P D GAT S Ğ G A GCC R CGC S TCA K AAA L CTA E GAA L CTA V GTT YTAC L CTG P CCA N AAC D GAT CGC GIG CGC CCC \triangleright L CTG H CAC $\frac{1}{CTC}$ C D GAC Q CAG D GAC M ATG L CTG N AAC Q CAG CIC C TGC R AGG H CAC L CTG A GCG $_{
m L}$ CIC H CAC G GGG N AAC Γ CIC LCIG L CTG g GGC H CAC A GCG L CTA T ACA A GCC RCGT AGC S AGC G GGC ഗ G GGG TACT L CTG R CGC A GCC PCCC L CTG GAC N AAC CHUCK L CTG P Ω $_{
m CTG}$ VGTC Q CAG S AGC L CIC F TTC

1/109

Fig. 1A

| 145 649 | 165 709 | 185 769 | 205 829 | 225 889 | 245 949 | 265 1009 | 285 1069 |
|-------------|-----------------|------------|------------|----------------------------|------------|-------------|-------------|
| TIG | 9 990 900 | L | A GCG | C TGC | F TTT | Q CAG | E GAA |
| R CGC | L | H CAC | A GCC | D GAC | D GAC | F | P |
| N AAC | YTAC | T ACC | L CTG | C TGC | R CGC | F | R CGG |
| N AAT | CIC CIC | A GCC | E GAG | P | V GTG | R CGC | K AAG |
| H H C | H CAT | S AGC | P CCT | L TIG | A GCC | V GTG | $_{ m CTA}$ |
| CIG | S AGC | L CTG | V GTA | P | S AGC | R CGC | 9 66C |
| L . CTT | CIC | G | S TCC | N AAC | L CTG | S TCC | L |
| L | A GCG | H CAC | I ATC | N AAC | 9 9 | A GCG | A GCT |
| K AAG | R CGC | L CTG | H CAC | H CAC | R CGG | P | PCCA |
| E GAG | L | H CAC | G GGA | $rac{	ext{L}}{	ext{TTG}}$ | Q CAG | V GTA | A GCC |
| CIC | g ggC | D GAC | L CTG | YTAC | H CAC | K AAG | S TCG |
| A GCG | H CAC | F | R CGG | L | W TGG | F TTC | S TCG |
| G GGG | F | S TCC | N AAC | G GGC | R CGC | A GCC | C |
| CIG | A GCC | F TTC | S TCC | N AAC | Q CAG | $_{ m TTG}$ | N AAC |
| G GGG | H CAT | S TCG | STCC | K AAG | L CTA | C TGC | E GAG |
| D GAC | E GAG | A GCC | L | L CIC | L CTG | V GTA | FTT |
| CHC | D GAC | CIC | D GAC | F TTC | H CAC | $^{ m Y}$ | VGTC |
| D GAC | Γ | E GAA | L CTG | A GCC | Y TAC | E GAG | R CGC |
| H | H CAC | N AAC | TACT | P CCG | CIC | R CGC | S · AGC |
| R CGC | V GTG | C | L | L CTG | CGC CGC | A GCG | H |
| | | | | | | | |

Fig. 1B

325 1189 345 1249 1309 385 1369 405 1429 425 1489 445 1549 305 1129 365 P CCC CCG R Q CAG H CAC F P CCA PCCC E GAG TACG GGC Q CAG A GCA S A GCC Q CAG TACC D GAC Q CAG FTTC AGC GGA T ACA Ŋ N AAC P CCA VGTA N AAC N AAC L CTG P CCA AAC Y TAC P CCA P CCG A GCG N AAC H CAC F TTC R AGG GGC H CAC A GCT L A GCC T ACA TACC Y TAC L CTG E GAG L CTG L CTG L I ATA V GTG P S AGC A GCC CGC CCC L CIT CII R AGG E GAG L TTG PCCC E GAG L P L GGG VGTG Γ L CTG V GTA Q CAG S AGC P CCA S Q CAG GGC T ACT RGGC LCTT P S TCA A GCC GGC R D GAC P C S TCC P L CTG VGTG K AAG GGT S TCG A GCC F TTT A GCC GTG L C TGC A GCC H CAC V GTT H CAC R CGT \gt VGTG $_{\rm TGT}^{\rm C}$ R CGC P L CTG \mathbb{W} V GTG V GTG EGAG A GCG A 3CC A GCG FIC S AGC GGC C TGC $_{
m CTG}$ Y TAC I ATC L CTC V GTG C TGC A GCT I ATT L CTG R AGA $_{
m L}$ RCGC S AGC GGA N AAC R CGC A GCG Y TAC P H CAC M ATG G GGC T ACA C H CAT E 3AG T ACC F CCC A GCT E GAG D GAT A 3CC

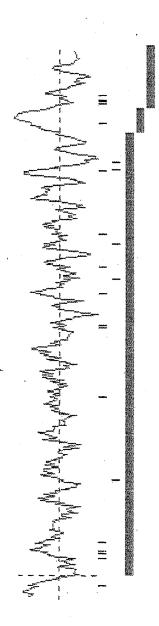
Fig. 1C

Fig. 1D

THE OF THE PARTY O

2895 TCTCTGGCCTGGGGCATCCACCCGTTGTTCTGAAGGCAGAGCCCATTCTGTGGGCTCACAAGACACAGTGAAGGGGGATC 2530 GAACTCCACGTCCCTCGAGAGCAGGAGCCTCTTAAGGGCTGGCACTGGTCTCAGCCTAATGGCTGAGGCGGTACCCTGG 2688 CIGGGGGCCCCCAIGGCCAICCIGGACCICGCIGCTCCAGAGITITAAIAAAGGIAGCACAIGCIIAITGCIAGAAAAA 2846

Fig. 1E



五 。 第 章

| 70 :GD LGD | GLGA- :: . GLLDP | 200 GHISV :: | -FFQH MLWEC 260 |
|--|--|--|--|
| 60 PAELPAATAD .:: :.: LTELCLRTNE | 110 120 130 SGLRLLDLSSNTLRALGRHDL-DGLGA- :::::::::::::::::::::::::::::::::::: | 190 LITLDLSSNRL : .: TGQGLAD | 260 TKVPASRVR ::::. LSPASRLKTL 250 |
| 50 SCTGLGLQDV : .: . SALRANPS | 10 120 130 SGLRLLDLSSNTLRALGRHDL-) . :: ::::::::::::::::::::::::::::::::: | 180 HLHGLSATHLL: :: IGEAGARVL(| 240 250 IQRGLSAVRDFAREYVCLAFKV :::::::::::::::::::::::::::::::::::: |
| 40 YKCICAADLL :. LTEEHCKDIG 40 | 110 VNASGLF :: PSTLRSLPTLF | 170 180 190 GCNELASFSFDHLHGLSATHLLTLDLSSN ::: : : : : : : : . : | 240 HQRGLSAVRD : : : LDLGSNGLGD 230 |
| 30 FPPRALHNCP : .: YEVVRLDDCG | 100 ELDALGRGVFV : : ::. SLTEAGCGVLP 100 | 160 LRALSHLYLG ::: LRATRAL | 230 CRLYHLLQRW . : IVASQASLRE 220 |
| 20 /GLGTPDSEGI : VTELLPLLQQY | 90 JLRALHLDHNI :: KIQKLSLQNC! | 150 HLD-EHAFHG: .: AASCEPLASV: | 220 YLHNNPLPCD : :: TPANCKDLCG 210 |
| 10 50 60 70 H MTWLVLLGTLLCMLRVGLGTPDSEGFPPRALHNCPYKCICAADLLSCTGLGLQDVPAELPAATADLDLSH : : : : : : : : : : : : : : : : : : : | 80 100 110 120 130 NALQRLRPGWLAPLFQLRALHLDHNELDALGRGVFVNASGLRLLDLSSNTLRALGRHDL-DGLGA::::::::::::::::::::::::::::::::: | 140 150 160 200 HLEKLLLFNNRLVHLD-EHAFHGLRALSHLYLGCNELASFSFDHLHGLSATHLLTLDLSSNRLGHISV ::::::::::::::::::::::::::::::::::: | 210 230 240 250 260 PELAALPAFLKN-GLYLHNNPLPCDCRLYHLLQRWHQRGLSAVRDFAREYVCLAFKVPASRVRFFQH .:.: :::: :::: :::: :::: ::::::::::::: |
| H MTW :: P MN- | H NAI P AGV | Н Р QCF | H PEI |
| | | | |

Fig. 16

| GSRDGSI :. CCQHVSL 330 | VGLVLVL . :. LLLANRS 390 | |
|---|--|--|
| SRVFENCSSA-PALGLKRPEEHLYALVGRSLRLYCNTSV-PAMRIAWVSPQQELLRAPGSRDGSI | 330 380 390 360 370 380 390 H AVLADGSLAIGNVQEQHAGLFVCLATGPRLHHNQTHEYNVSVHFPRPEPEAFNTGFTTLLGCAVGLVLVL | ST |
| 310 MRIAWVSPÇ CQLESLWVF | 380 EPEAFNTGF . : .: :: :DCEVTNSGC 380 | 0 410 420 430 440 450 LYLFAPPCRCCRRACPLPPLAPNTQPAPRAEPHK-SSVLSTTPPDAPSPQGQASTST : |
| rsv-PAM] | VHFPRPE RVLCLGD 370 | O IPPDAPS EEVEDRL |
| 300 RLYCN' :: :: 3ARLLCE | 370 THEYNVSY SQPGTTLI | 440 K-SSVLSTTI : VLYDTYWTE! 430 |
| GRSL: : : :GNKLGDE | 360 PRLHHNQ' . : QELCQAL'3 | 430 PRAEPHK : CALEQLV |
| 290 EHLYALVGR : ::: KEL-SLAGN | 0 FVCLATG KLGDSGI 350 | 0 APNTQPA ::. GSLEQPG 420 |
| 280 ALGLKRPE:::XVLQAKETL | 350 QEQHAGLFY . : ELQLSSNKI | 420 ACPLPPLA: . : : : : PGVLQLLG |
| 270 280 SRVFENCSSA-PALGL: .: DITASGCRDLCRVLQA 270 | 340 SLAIGNVQE : HLLEI | 410 PCRCCRR. |
| 270 SRVFENG | 330 3 H AVLADGSLA . : P MLTQNKHL- | 400 410 H LYLFAPPCRCCRRACP : |
| н а | 3 H | 4 H |

Fig. 1H

Pro gct Ala

336

gag Glu

tta Leu

cca

gca Ala

gct Ala

tct Ser

tgc Cys

aac Asn

aag Lys

ttc Phe 100

gtc Val

cgg Arg

agc Ser

gtg Val 105

ggc Gly 110

| 384 | 432 | 480 | 528 | 576 | 624 | 672 |
|--------------------|--------------------|---------------------------|---------------------------|--------------------|--------------------|--------------------|
| | | | | | | |
| agg ctc Arg Leu | tcc ccg Ser Pro | atc gct Ile Ala 160 | cag cac Gln His 175 | cac aac His Asn | gag cca Glu Pro | gtg ggc Val Gly |
| ctg Leu | gtc Val | agc Ser | gag Glu | cac His 190 | CCC Pro | att Ile |
| tcc Ser 125 | tgg Trp | ggt Gly | caa Gln | ctg Leu | cgc Arg 205 | tgt Cys |
| cag Gln | gcc Ala 140 | gat Asp | gtg Val | cgc Arg | gct Ala | ggc Gly 220 |
| ggc Gly | gtg Val | cag Gln 155 | agg Arg | ccc Pro | aag Lys | ctg Leu |
| gtg Val | cgg Arg | tct Ser | ggc G1 <u>y</u> 170 | 999 G1 <u>y</u> | caa Gln | ctg Leu |
| cag Gln | act Thr | gcc Ala | ata Ile | agt Ser 185 | gtg Val | acc Thr |
| gcg Ala 120 | gcc Ala | cca Pro | gcc Ala | gcc Ala | agt Ser 200 | acc Thr |
| cac His | cct Pro 135 | gcg Ala | tta Leu | ctg Leu | gtg Val | ttt Phe 215 |
| ctg Leu | gtg Val | gtg Val 150 | agc Ser | tgc Cys | aat Asn | ggc Gly |
| cag Gln | agt Ser | ctt Leu | 99c Gly 165 | gtg Val | tac Tyr | aca Thr |
| gag Glu | acc Thr | ctg Leu | gat Asp | ttt Phe 180 | gag Glu | aac Asn |
| gaa Glu 115 | aac Asn | gag Glu | gct Ala | gtc Val | ctt Leu 195 | ttc Phe |
| cct Pro | tgc Cys 130 | aat Asn | ttg Leu | ggc Gly | aca Thr | act Thr 210 |
| ctg Leu | ttc Phe | aag Lys 145 | gtg Val | gca Ala | cag Gln | gag Glu |

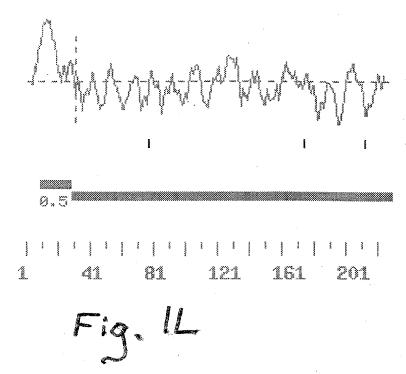
Fig. 13

| 720 | 768 | 816 | 864 | 912 | 096 |
|---|---|---|---|---|---|
| ccc tgt cgt ggc tgc Pro Cys Arg Gly Cys 240 | tgc tgg ccc cgg gca Cys Trp Pro Arg Ala 255 | tcc atg ctt agc act Ser Met Leu Ser Thr 270 | gtc cac aag cat gtg Val His Lys His Val 285 | ggc cgt gtg cag ctc Gly Arg Val Gln Leu 300 | atg ggc ttg caa ctc Met Gly Leu Gln Leu 320 |
| y ttt gca cca 1 Phe Ala Pro 235 | c cgc aac cgt s Arg Asn Arg 250 | c gca cag tcc r Ala Gln Ser 265 | s aag gcc agt g Lys Ala Ser) | g ggc ctc aat s Gly Leu Asn | y tgc aac ccc 1 Cys Asn Pro 315 |
| g ctc tac ttg u Leu Tyr Leu 230 | g cgg gcc tgc n Arg Ala Cys 5 | g gag ctg ago n Glu Leu Sei | a ccc agc cgc a Pro Ser Arg 280 | g ggc aag aag o Gly Lys Lys 295 | c tcc gat ctg p Ser Asp Leu 310 |
| g ctg gtg tt 1 Leu Val Le | ac tgc tgt ca is Cys Cys Gl 24 | gt cca ctc ca er Pro Leu Gl | ca cca gat gc ro Pro Asp Al 275 | tc ctg gag cc he Leu Glu Pr 90 | ta cct cca ga al Pro Pro As |
| ctg gt Leu Va 225 | tgt c Cys H | tcc Ser s | acg c Thr P | gtc t Val P | gca g Ala V 305 |

Fig. 1K

Cys

out Th ins



The second of the same of the transform of the same of

| Σ | \leftarrow I | · H | 30 |
|---------------------|----------------|--|-----|
| Ħ | 151 | | 200 |
| M | 31 | • [⊢ | 80 |
| H | 201 | : | 250 |
| $oxdam{\mathbb{Z}}$ | 8 | | 130 |
| H | 251 | CLAFKVPASRVRFFQHSRVFENCSSAPALGLKRPEEHLYALVGRSLRLYC | 300 |
| \mathbb{Z} | 131 | | 180 |
| Н | 301 | NTSVPAMRIAWVSPQQELLRAPGSRDGSIAVLADGSLAIGNVQEQHAGLF | 350 |
| × | 181 | | 230 |
| Н | 351 | VCLATGPRLHHNQTHEYNVSVHFPRPEPEAFNTGFTTLLGCAVGLVLVLL | 400 |
| Σ | 231 | RNRCWPRASSPLQELSA.QSSMLSTTPPDAPS | 279 |
| 田 | 401 | YLFAPPCRCCRRACPLPPLAPNTQPAPRAEPHKSSVLSTTPPDAPS | 446 |
| Σ | 280 | RKASVHKHVVFLEPGKKGLNGRVQLAVPPDSDLCNPMGLQL 320 | |
| H | 447 | PQGQASTST455 | |

| | | | | 14 / | 109 | | |
|---------------------------------|----------|-----------|-----------------------|------------|------------|-----------------------|------------|
| 10 69 | 30 | 50 189 | 70 | 309 | 110 369 | 130 429 | 150 489 |
| CIG | N AAT | Q CAG | C HGC | L | N AAC | L | A GCC |
| F TTC | D GAC | L | R CGA | L | L CIG | 9 66C | L CTA |
| L CTG | A GCG | F TTC | L | PCCT | A GCT | T ACT | I ATC |
| Q CAG | W TGG | P | L | N AAC | V GTG | T T T T C | 9 |
| Y TAC | K AAA | H CAT | YTAC | F | Y TAT | I ATA | L |
| K AAG | A GCA | Q CAG | F | CCC CCC | M ATG | I ATC | W TGG |
| TACC | S TCG | F TTC | A GCC | Q CAG | CIC | V GTG | Q CAG |
| W TGG | CIC | S AGC | A GCT | Q CAG | S AGC | A GCA | S AGC |
| A GCC | T ACG | H CAC | L CTG | P CCC | T ACC | G GGT | L CTG |
| M ATG | N AAC | E GAG | C TGC | D GAC | GGG | R CGG | V GTG |
| CGAC | I ATC | K AAG | S TCC | V GTA | T ACA | CIG | L CTG |
| SCECC | S TCC | S AGC | T T T T C | S AGC | M ATG | M ATG | R AGG |
| CGTC | GG C | GGG | E | S TCC | D GAC | Q CAG | R CGG |
| CCAG | T ACC | G GGA | G GGA | D GAC | C TGT | T T T C | 9 66C |
| AACC | V GTT | C TGT | L | S TCA | L | S AGC | L CIG |
| 36606 | CTT | 9 9 | H H T T C | CAA | A GCG | S TCC | THC |
| GTCC | M ATG | E GAG | M ATG | 999 | P CCA | A GCC | A GCC |
| GTCGACCCACGCGTCCGGCGAACCCCAGCGT | CIC | A GCC | 9 GGC | A GCA | P | S AGT | V GTG |
| ACCC | G GGG | M ATG | V GTG | A GCT | L CIG | T ACC | S TCG |
| GTCG | A GCC | F | A GCA | R AGA | F | M ATG | T I C |

Fig. 2A

| | | | | 15 / | 109 | | |
|----------|-------------|----------|----------|----------|----------|------------------|----------|
| 170 | 190 | 210 | 230 | 250 | 270 | 290 | 310 |
| 549 | 609 | 669 | 729 | 789 | 849 | | 969 |
| Q CAG | V GTT | R CGG | M ATG | L TTG | I ATC | TACC | CIG |
| S | I | L | PCCC | A | N | A | A |
| AGT | ATC | CTG | | GCA | AAC | GCC | GCA |
| D | I | P | V | D | G | S | CIG |
| GAC | ATC | CCA | GTG | GAT | GGC | AGC | |
| H | Q | H | L | E | L | $ m L_{ m c}$ | S |
| CAC | CAG | CAC | CTG | GAG | CTG | | AGC |
| K AAG | A GCC | V GTG | L CIG | L CTG | CIG | E GAA | CIG |
| S | M | N | L | T | A | K | A |
| AGC | ATG | AAT | CTG | ACA | GCA | AAG | GCA |
| L | I | H | S | | V | T | W |
| CTG | ATC | CAC | TCC | GGG | GTG | ACC | TGG |
| CHC | I ATC | K AAA | L | R CGT | A GCC | V GTC | I ATC |
| D GAC | $_{ m TTG}$ | Y TAC | I ATC | P CCT | I ATT | S AGC | GTC |
| A | L | V | V | N | CIC | I | V |
| GCT | CTG | GTC | GTG | AAC | | ATC | GTT |
| L CTG | D GAC | F | F | G GGA | P | G GGC | T ACC |
| | | K | G | S | Q | A | R |
| GGC | GGG | AAG | GGC | AGC | CAG | GCA | CGC |
| V | T | E | F | F | Q | F | L |
| GTG | ACA | GAG | TTT | TIC | CAG | | THG |
| V | I | E | L | S | | N | S |
| GTC | ATC | GAG | | TCC | GGC | AAC | AGC |
| √ GTG | V GTG | L CTA | G GGC | g GGC | VGTG | T T T C | D GAC |
| L CTG | E GAA | V GTG | E GAG | A GCC | Q CAG | F | I I C |
| G GGG | S AGC | M ATG | ACT | P | C TGC | A GCC | V GTG |
| A GCG | CIC | Q CAG | 9 GGC | I ATC | F | I ATT | M ATG |
| I | K | I | V | Y | A | S | R |
| ATC | AAG | ATC | GTT | TAC | GCC | AGC | CGC |
| T | H | A | A | YTAC | D | S | T |
| ACC | CAC | GCC | GCA | | GAC | AGC | ACC |

Fig. 2B

| 330 1029 | 350 1089 | 370 1149 | 372 1155 | 1234 | 1313 | 1392 | 1471 | 1518 |
|------------------|----------------|--------------------------------|-------------|--|---|---|---|-----------------------------|
| T ACT | CIG | A GCC | | | | | | |
| 9 9 9 0 | CCC | D GAT | | 3000 | AACAA | AGAC | GTAI | |
| I ATA | R CGG | N AAT | | TGGG | CCCTCCCTGCAGAACCCCCAGGGCAGCTGCTGCCACAGAAGATAACAACAC | GCAGGGTGGTGTTACCCAGCCCCCACAAGCCTGAGTGCAGTGGCAGACCTC | GAGCTAAATCATGAAGTTGAATTGTAGGAATTTACCACCGTAGTGTATCTG | |
| L | GGC | I ATC | | CTG | CAGAZ | rgcac | SACCO | |
| CIC | R AGG | CCC | | ACAGO | SCCAC | GAGI | TACC | |
| I ATA | S TCC | T ACT | | CACE | GCTO | ₹GCC1 | BAATI | |
| CIC | L | R CGC | | BAGGC | AGCI | CACAZ | TAGG | |
| F | R CGC | T ACC | | SACTO | \GGGC | מממנ | AATTG | |
| GGC | 9 990 | G GGC | | TGAG | CCCZ | CAGO | TLLE | SCGC |
| CIT | L CIG | GGT | | TCC | SAACC | TACC | GAAG | AAAAAAAAGGGCGGCCGC |
| I ATC | L CTG | L | | CTTC | rgcac | 3GTG1 | ATCA! | AAGGC |
| Q CAG | P | L CIG | | IGCTC | וכככו | GGTO | TAA | AAAA |
| L | R CGT | R AGA | | 36663 | | | AGAGO | |
| A GCA | H CAC | E GAG | | ACCC | TGT | ACCI | CACTA | AAAA |
| H CAT | L CTA | | | TGCC | CACCC | TACC | ACAGO | \TAA? |
| F H TTC CAT | 999 | E GAG | | CTAC | CCTC | CTCAC | CCTA | ATC |
| E A GAG GCC | N AAT | S AGC | | GCTI | AAGG | TTT | CCCI | AGATI |
| E GAG | $rac{Y}{TAC}$ | E GAG | | GGAG | າວລວາ | TCL | GGAC | ACTA |
| TG(| CIC | A E E S E Q GCA GAG GAG CAG | * TGA | GGTTCCCTGGAGGCTTCTACTGCCACCCGGGTGCTCCTTCTCCCTGAGACTGAGGCCACACAGGCTGGTGGGCCCCCGAA | TGCCCTATCCCCAAGGCCTCACCCTGTC | CCAAGICCTCTTTTCTCACTACCACCT | AGCTCTGGACCCCTCCTACAGCACTA | AATCATAAACTAGATTATCATAAAAAA |
| GGC | A GCC | A GCA | S AGC | GGT1 | TGCC | CCAF | AGCI | AATC |

Fig. 20

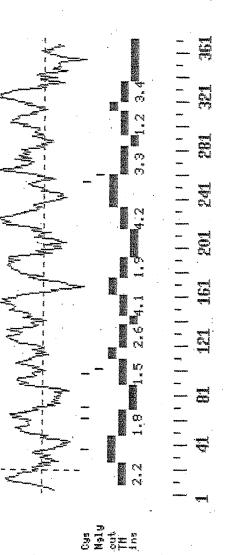


Fig. 2D

| 5 | 25 132 | 45 192 | 65 252 | 85 312 | 105 372 | 125 432 | 145 492 |
|-------------------------------|-------------|-----------|------------------|----------------------------|-----------------|------------|----------------------|
| W TGG | W TGG | FL | Γ | G GGA | N AAC | L | CIC |
| H V | M | R CGG | L | Q CAA | K AAG | H CAC | A GCC |
| P F | V GTG | R CGG | G GGG | L CTG | G GGG | S TCC | A GCT |
| A GCC CC | EGAG | V GTA | T ACT | E GAG | K AAA | A GCC | S AGT |
| M A | A GCT | V GTA | P | Γ | Q CAG | N AAT | V GTG |
| | G GGG | TACG | E GAG | A GCC | I ATC | Y TAC | VGTC |
| CCTGAAGCTCAGAGCCGGGGGGGTGCGCC | I ATT | A GCC | T ACG | E GAG | $^{\mathrm{C}}$ | P | Y TAC |
| 3GCG. | G GGC | L | Γ | M ATG | E GAG | Q CAG | T ACC |
| 2066 | $_{ m CTG}$ | E GAG | T ACG | S AGC | TACT | Γ | C TGC |
| AGAG | G GGC | G GGG | L CTG | F | K AAG | F | K AAG |
| BCTC | W TGG | S TCT | T ACA | A GCC | K AAG | R CGC | P CCC |
| rgaa(| Γ | S TCT | L CIG | H H H H H H | E GAG | I ATC | Q CAG |
| BGCC | R AGG | V GTG | H H H C | L | V GTG | F TTC | F TTC |
| AGCT | A GCA | T ACA | D GAC | A GCC | CCC | N AAC | A GCC |
| 3GAC | A GCA | K AAG | Q CAG | E GAG | A GCC | F TTC | ${ m Y}$ |
| gecec | Γ | CGT | I ATC | R CGA | E GAG | C | T ACC |
| CGTC | Γ | P CCG | G GGC | A GCC | W TGG | E | GGC |
| CACG | W TGG | V GTG | T ACC | GGC | S | T ACC | $_{\rm TGT}^{\rm C}$ |
| GTCGACCCACGCGTCCGCGGGACAGCTGG | VGTC | L | Q CAG | V GTG | I ATC | Q CAG | V GTC |
| GTC | A GCT | N AAC | S | Y TAC | A GCG | N AAC | Y TAC |

Fig. 3A

Fig. 31

1263 1342 1658 1737 1895 CTGGCACAACACCACCTTCTTTGGGGTTTTTTCAAGCACAGTGGGGTGACATGTACCTGTCGGCCATCTGTGAGTACCAG 1184 GGGGCGCGCGCTGCTGAAGGCTACCTTGTGGCTGTCGTGGCAGGCCCGTCGGTGACCTTGGAGGCCCGGGCCCCCC 1421 ACCCTGTACCCAGGCCCTGGTTGTGATGGCTGCCCAGCCCCGCCATGCCGGGGCCTACCACTGCTTTTCAGAGGAGCAG ATTCAGATGGCTCCCTTAAGATAGTACCTGGGCATGCCCGGTGCCCGGTGGGGGGGCCCCCTTCGCCACCTCCAGG TGCAGCAACGCCAGCCACTGCCCGACTCCAACCCCGAGGAGTCATCAGTATGAGGGGAACCCCCACCGCGTCGGCGGAA TTGGAAGAGATCCAGCGGGTGTTTGAGGCCCCCTATAAGGAGTACCATGAGGAAGCCCAGAAGTGGGACCGCTACACTG ATTGCGCCGGCGGCTGCGGGAAGAGCTGGAGAAAGGGGCCCAAGGCTACTGAGAGGACCTTGGTGTACCCCCTGGAGCTG CCCAAGGAGCCCACCAGTCCCCCTTCCGGCCCTGTCCTGAACCAGATGAGAACTTTGGGATCCTGTCGGTTACTACT

Fig. 3(

GACAGATACTGCCCAGCACCCACCCGGCCATGAGGACCTGCTCTGCTCAGCACGGGCACTGCCACTTGGTGTGGTCTCAC 2132

CAGGGCACCAGCCTCGCAGAAGGCATCTTCCTCTCTGTGAATCACAGACACGCGGGACCCCAGCCGGCAAACTTT

2290

2369 GCGTGCGCGCTTGTGGCATAGCCTTCCTGTTTCTGTCAAGTCTTCCCTTGGCCTGGGTCCTCCTGGTGAGTCATTGGAG

2448

2527 AGGTGGGGTGGACAGGGTGCTGTGCCCCTTCAGAGGGAGTGCAGGGCTTGGGGGTGGGCCTAGTCCTGCTCCTAGGGCTG

2606

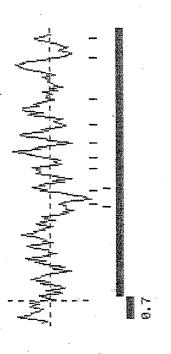
2685 GCCCCGGGGGTTCAGTGGTATTTTATACTTGCCTTCTTCTTACAGGGCTGGGAAAGGCTGTGTGAGGGGAGAAGGG

2764 AGAGGGTGGGCCTGCTGGACAATGGCATACTCTCTTCCAGCCCTAGGAGGAGGGCTCCTAACAGTGTAACTTATTGT

Fig. 3D

GTCCCCCCCGTATTTATTTGTTGTAAATATTTTGAGATTTTTATATTGA

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The state of the s

| 10 20 30 40 50 60 70 MAPHWAVWLLAAGLWGLGIGAEMWNLVPRKTVSSGELVTVVRRFSQTGIQDFLTLTLTEHSGLLYVGAR :::::::::::::::::::::::::::::::::::: | 140 <ctyi ::::. <ctyv 140</ctyv </ctyi | 210 AFWL | | 280 TFLK | 350 EYSE |
|--|---|---|----------------|---|---|
| SGLLYVGA::::::::TGLLYVGA: | 1 SEQPKCT SECTION 1 | TEYI | | KKW1 | GPYF |
| 60 LTEHS :::: | 90 100 110 120 130 140 ISWEAPAEKKIECTQKGKSNQTECFNFIRFLQPYNSSHLYVCGTYAFQPKCTYI :::::::::::::::::::::::::::::::::::: | 160 170 180 190 200 210 GKCPYDPAKGHTGLLVDGELYSATLNNFLGTEPVILRYMGTHHSIKTEYLAFWL | | 220 230 240 250 260 270 280 NEPHFVGSAFVPESVGSFTGDDDKIYFFFSERAVEYDCYSEQVVARVARVCKGDMGGARTLQKKWTTFLK ::.: | 300 340 350 330 340 350 LKAVHTLRGASWHNTTFFGVFQARWGDMDLSAVCEYQLEQIQQVFEGPYKEYSE::::.:: |
| 60 FLTLTLTE FLTLTLTE FLTLTLTE | HLYV(| (MGTI | |)))))))) | I D I C |
| : 0 : 1 QDF1 : 1 : 1 : 1 : 1 : 1 : 1 1 1 1 1 | 120 LQPYNSSHL::::: LQPYNASHL: | , TLR | | CKGI | EYQI |
| 50 QTGI :::: QTGI | 120 TLQPYI :::: TLQPYI 120 | 190 TEPV | | 260 VARV | 330 SAVC |
| RRFS RRFS | FIRE . | NFLG | | VVAR | 1 |
| 20 30 40 5 LGIGAEMWWNLVPRKTVSSGELVTVVRRFSQTG :::::::::::::::::::::::::::::::::::: | 90 110 ISWEAPAEKKIECTQKGKSNQTECFNF::::::::::::::::::::::::::::::::::: | 180 SATLN | | 250 CYSEQ | 320 Qarwg |
| SGEL : SGEL | SNOT: | 1 ELYS | | EYDC | GVFQ |
| KTVS :::: KTVS | QKGK :::: QKGK | LVDG | | ERAV. : -R | T T F F F F F F F F F F F F F F F F F F |
| 30 LVPR: :::: LVPR: 30 | 100 IECT. | 170 HTGL | i | 240 FFFS] | 310 SWHN' |
| MWWN::: | AEKK •••• VEKK | PAKGI | | OKIY. | _RGA; |
| 20 IGAEI :::: IGAE ⁷ | 90 WEAP! .::: WEAP! | 160 KCPYD | i i | 230 FTGDDI | 300 .KAVHTI :.:: |
| VGLG: | | 1 (3KGK(| | 237GSFT | 3(JQLK <i>I</i> : |
| AAGLV : :: |)Ö13; | SFED(| | 7PES(| (VYF) |
| 10 MAPHWAVWLLAAGLWG::::::::::::::::::::::::::::::: | 80 EALFAFSVEALELQGA :::::::::::::::::::::::::::::::::::: | 150 NMLTFTLDRAEFEDGK | | 220 EVGSAFVP ::.: -VSAALLP | 290 ARLVCSAPDWKVYFNQI : : : CPQPP |
| 'HWA\ :::: 'HWA\ | FAFS | TETI | 1 1 1 | HEVG :VS | 29 VCSAPD' |
| | | | 1 | NEP | |
| N H | M H | \boxtimes | H | N H | Z H |

Fig. 3F

| 420 TNF TSL | 490 AGSRS • • • • SVPMT | 560 KVR | CYS | 700 GAK |
|---|--|---|---|---|
| PLLVKKN ::. -LLI | KKVLFAG | NQYGIK | HSGPYR | REELEK(|
| 410 KPRLGR! | 480 PVESLVLSQSK ::: SMESLKMGRA- | 550 LDTSKMC | 620 VMAAQSR | 690 .SLRRRL |
| 370 380 400 420 PGSCINNWHRDNGYTSSLELPDNTLNFIKKHPLMEDQVKPRLGRPLLVKKNTNF .: :: :: :: :: :: :: :: :: :: :: :: :: : | 440 450 460 470 480 490 TVLFIGTGDGWLLKAVSLGPWIHMVEELQVFDQEPVESLVLSQSKKVLFAGSRS .:.:SMESLKMGRASVPMT | 520 530 540 550 560 CAWNVNTSRCVATTSGRSGSFLVQHVANLDTSKMCNQYGIKKVR : : . : .: .: .: .: .: .: .: .: .: .: .: | 610 FLYDTGLQALV | 650 680 670 700 AGSSVTLEARAPLENLGLVWLAVVALGAVCLVLLLLVLSLRRRLREELEKGAK ::.:: ARNPLSCVT230 |
| 390 LELPDNTLN : L | 460 LGPWIHMVE1 . : PSLW | 520 530 AWNVNTSRCVATTSGE : : . :: -:: | 0 600 QDLPAEQPGS | 670 3LVWLAVVAL |
| 380 WHRDNGYTSS: SPAI | 450 4 SDGWLLKAVSLGPWI .:.:.: | 520 PYCAWNVNT : : . | 590 AHAHWTFGS(: | 660 EARAPLENL(::.:: -ARNPLS |
| 370 PRPGSCINNV .: . GCGPQ- | 440 TYTVLFIGTC | 510 FCVDCVLARDPY : : FL | 580 VLPCHLSSNI | |
| 360 QAQKWARYTDPVPSPR :: WTR | 430 M THVVADRVPGLDGATY: H S180 | 500 QLVQLSLADCTKYR :: .:: QLRAM-LA | 210 570 580 590 600 610 620 630 SIPKNITVVSGTDLVLPCHLSSNLAHAHWTFGSQDLPAEQPGSFLYDTGLQALVVMAAQSRHSGPYRCYS : | 640 EEQGTRLAAESYLVAVV |
| Σ н | M H 18 | Σ H | Ж н | M H |

Fig. 3G

| 770 | GIPGQP | | | | | | |
|-----|---|----|--------------------------|-----|-----|--|---|
| 760 | ASPPFRPGPETDEKLWDPVGYYYSDGSLKIVPGHARCQPGGGPPSPPGIPGQP | •• | GPTTP | 240 | 830 | LPDSNPEESSV | |
| 750 | LKIVPGHARC | | | | 820 | LRRKLQQRQP. | 1 |
| 740 | PVGYYYSDGS | | | | 810 | GHPLPELADE | [] [] [] [] [] [] [] [] [] [] |
| /30 | GPETDEKLWD | •• | -M | | 800 | QLGGEDRGGS | 1 |
| 720 | KEPASPPFRP | | | | 790 | NSNANGYVRI | |
| 710 | M ASERTLVYPLELPKEPA | | H | | 780 | M LPSPTRLHLGGGRNSNANGYVRLQLGGEDRGGSGHPLPELADELRRKLQQRQPLPDSNPEESSV | H |
| | | | | | | | |

Fig. 3H

| 10 20 30 40 50 60 70 70 50: : : : : : : : : : : : : : : : : : | 80 140 120 120 140 TTTAGACCCTGGGTGTCTGCCATGGCCCCACACTGGGCTGTTGGCTGCTGGCAGGGCT : :: :: :: :: :: :: :: :: :: :: :: :: : | 150 160 200 210 GTGGGGCCTGGGGCTGAGATGTGGTGGAACCTTGTGCCCCGGAAGACAGTATCTTCTGGGGAG :::::::::::::::::::::::::::::::: | 20 230 280 AGTAGTGAGGCGTTCTCCCAGACAGGCATCCAGGACTTCCTGACACTGACCCTGACAGAAC .:::::::::::::::::::::::::::::::::::: | 290 310 320 330 340 350 M ATTCTGGCCTTTTATATGTGGGGCCCCGAGGGCGCTGTTTGCCTTCAGTGTAGAGGCTCTGGAGCTGCA .::::::::::::::::::::::::::::::::::: |
|---|--|--|--|--|
| 2245 :::: | TAGACC :::: CAGAGC 40 | 150 M GTGGGGCCTGGGCATCG ::::::::::::: H GTGGGGCCTGGGCATTG | GTGA ::. GTAC | 290 M ATTCTGGCCTTTTATATO .::::::::: H CCACTGGGCTTCTGTAC |

| 420 ACCAG ::::: | 490 GGCACCT :::::: GGCACCT | 560 GAGGA | 630 TGTAC: | 700 CTCCA |
|---|---|---|--|--|
| 410 AGGGAAGAGCA :::::::::: AGGGAAGAACA 370 | 480 IATGTCTGCGG :: ::::::::: TACGTCTGTGG | 550 CCGTGCAGAATTT ::: GTGC | 620 3GACGGTGAGC :: CG | 690 GGGACCCACCA :: :::: TGG-CCCAC |
| 400 GTACCCAGAAA ::::::::: GTATCCAGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | 440 450 460 470 480 490 AACTTCATCGCTTCAGCCATACAATTCCTCCCATCTGTATGTCTGCGGCACCT ::::::::::::::::::::::::::::::::: | 540 ACCTTGGACCO::. | 610 GACTCCTTGT(: : :: AGCCCCC | 680 TCGATACATGGGGA :::::: |
| 390 SAAAATTGAAT :::::::::: SAAGACTGAGT | 460 CCATACAATTC ::::::: | 530 TGCTCACGTTC | 590 600 610 CCCAGCTAAGGGTCACACCGGACTCCT ::::::::::::::::::::::::::::::::: | 670 CCGGTTATCCT |
| 380 CAGCTGAGAA(: : ::::: CCGTGGAGAA(| 450 SCTTCCTTCAGCC :::::::::::::::::::::::::::::::::: | 510 520 530 540 CAAGTGCACCTACATCAACATGCTCACGTTCACCTTGGA(::::::::::::::::::::::::::::::::::: | 590 5ACCCAGCTAAGGGTCA :::::::: | 660 CTGGGCACAGAG :::::::::::: CTGGACTCGTGG |
| 370 ITGGGAGGCTC :::::::: CTGGGAGGCCC | 440 AACTTCATCCGCT' ::::::::::: AACTTCATCCGCT' | 510 ccaagrgcacc :::::::: ccaagrgcacc | 580 ATGCCCATATG ::::. -TGCCCT | 650 AATAACTTCC1:: ::TTCTC1 530 |
| 360 370 380 420 AGGAGCGATCTCTTGGGAGGCTCCAGCTGAGAAAATTGAATGTACCCAGAAAGGGAAGAGCAACCAG ::::::::::::::: | 430 CGAATGCTTC ::::::::: CGAGTGCTTC 390 | 520 ATGCCTTCCAGCCCAAGTGCACCTACATCAA : :::::::::::::::::::::::::::::::::: | 570 580 600 600 630 TGGGAAGGGTAAATGCCCATATGACCCAGCTAAGGGTCACACCGGACTCCTTGTGGACGGTGAGCTGTAC :::::::::::::::::::::::::::::::::::: | 640 650 670 680 690 700 TCAGCCACACTCAATAACTTCCTGGGCACAGAGCCGGTTATCCTTCGATACATGGGGACCCACCACTCCA : :::::::::::::::::::::::::::::::::: |
| M A: : H A: 31 | M AC(:: H AC(| M AT(: H AC(450 | E H | M TC. H CC |

Fig. 3.

| 770 CTGAGAG ::: -TTAGA- | 840 GTATGAC ::::: GTTTGA- 640 | 910 CACGGACGC : :: : CTATGACCC 670 | 980 GTCTACTT ::::- CAACAA | 1050 GGTTTTT : |
|---|--|--|--|--|
| 0 760 770 CTCTGCCTTTGTCCCTGAGAG ::::::::::::::::::::::::::::::::: | 830 GCAGTGGAGTATGA .: .:::::::: | 900 GGGGAGCA :: | 970 ACTGGAAGG ::: ACT | 1040 TTCTTCGG :: :: CTGCG- |
| 750 FAGGCTCTGC :::: CCTCTCT 590 | 820 CTTCAGTGAGCGG ::: .: :::. CTT-TG-GAGCA- 630 | 890 3GTGACATGG : C | 960 GCTCAGCCCCTGA .::::::: ACTCGGCCACA 720 | 1030 CAACACCACC |
| 740 :.: ::::: ATCTCCTCATCAC- 580 | 790 800 810 820 830 840 GGAGACGATGACTACTTCTTCAGTGAGCGGGCAGTGGAGTATGAC :::::::::::::::::::::::::::::::::::: | 860 870 880 890 900 910 TGGTGGCTCGTGTGGGGAGTCTGTAAGGGTGACATGGGGGGAGCACGGACGC :::::::::::::::::::::: | 930 940 950 960 970 980 GACGTTCCTGAAGGCTCGGTTGGTGTGCTCAGCCCCTGACTGGAAGGTCTACTT :.::::::::::::::::::::::::::::::::: | 1000 1010 1020 1030 1040 1050 GTGCACACCCTGCGGGGCGCCTCTTGGCACACCACCTTCTTCGGGGTTTTTT ::::::::::::::::::::: |
| 730 TTTGGCTGAATGAA :::: TTAAGCAT | 800 810 ATGACAAGATCTACTTCTT ::::::: | 870 88 TCGTGTGGCGAGAGTC'::::-: | 940 CTGAAGGCTCG(:::::: TTGT-GGATGG' 700 | 1010 ccrgcggggg :::.:: CGGAAC |
| 720 7 ccrggcrrrrrggcr:::::::::::::::::::::::: | 790 ACGGGAGACG | 860 CAGGTGGTGGCT :::: -AGATGG | 930 GACGACGTTCC : :: :: GCTGGCCTTCT 690 | 1000 AGGCGGTGCACA(:::. -GGCA |
| 710 720 740 750 770 770 770 770 770 770 770 770 77 | 780 TGTGGGAAGCTTCACG | 850 TGCTATTCCGAGCAGG ::. | 920 TGCAGAAGAAATGGAC .::: AGCTAAGGGCCATGCT 680 69 | 990 CAACCAGCTGAAGGCG ::::::::::::::::::::::::::::::::: |
| ŭ H | ŭ i W H | E H | M H A | N H |
| | | | | |

Fig. 3K

| 1120 CAAGTGT | 1190 GTACCCAG ::: .: GTAGG | 1260 ACTGCCG :: :: ACGAC 880 | 1330 3GCCGCC | 1400 ATGGTGC .:: :: GTGTGGC |
|--|--|---|---|--|
| 1110 SAACAGATCCAGCAAGTGT : ::: CTCCA | 1180 CTGACCCGG: ::::::::::::::::::::::::::::::: | 1250 126 TTCCCTGGAACTGCC:::::-: | 1320 :CCTCGGTTG(: ::. | 1390 :CAGGGCTTG; :(|
| 1100 ACCAGTTGGAA ::: ACCA780 | 160 1170 1180 GAAGTGGGCCCGCTATACTGACCCGGTA::::::::::::::::::::::::::::::::::: | 1240 GCTACACCAG :::: GCAGCTTCA- 870 | 0 1310 1320 SAGGACCAGGTGAAGCCTCGG ::::::::::::::::::::::::::::::::::: | 1380 3ACAGGGTCC :: TC- |
| 1090 TTGTGAGTAC | 1160 CAGAAGTGGC ::: :TTTTGGC | 1230 1240 CGAGACAATGGCTACACCA :::.::::::::::::::::::::::::::::: | 1300 GATGGAGGAC ::: GGGC | 1370 GTGGTGGCC(:::::: |
| 1080 TGTCTGCAGT : | 1150 TGAGCAAGCC ::::- | 1210 1220 1230 1240 1250 1260 TGTATCAACAACTGGCACCGAGACAATGGCTACACCAGTTCCCTGGAACTGCCG ::::::::::::::::::::::::::::::::: | 1280 1290 1300 1310 1320 1330 TCATCAAGAAGCACCCCTGATGGAGGACCAGGTGAAGCCTCGGTTGGGCCGCC :::::::::::::::::::::: | 1350 1360 1370 1380 1390 1400 GAACACTAACTTCACACGTGGTGGCCGACAGGGTCCCAGGGCTTGATGGTGC .:::::::::::::::::::::::::::::::::::: |
| 1070 SATATGGACC' :: CC | 1140 aGGAGTACAG ::::: GAGTAC 800 | 1210 3TGTATCAAC ::::: -TGTA-C | 1280 ITCATCAAGAAGC :::::::::::::::::::::::::::::::::::: | |
| 1060 1070 1080 1090 1100 M CAAGCGCGATGGGCCGATATGGACCTGTCTGCAGTTTGTGAGTACCAGTTG :: ::::: H CATGGGGCCCACCA770 | 1130 1140 1150 1160 1170 1180 1190 TTGAGGGTCCCTACAAGGAGTACAGTGAGCCAAAGTGGGCCCGCTATACTGACCCGGTACCCAG ::::::::::::::::::::::::::::::::: | 1200 cccrcgccrggrrcg : ::::: crcrgccra | 1270 GACAACACCCTCAACT ::::: . : .:.:: GACAAGGTCTACTTCT 890 | 1340 ccctacttgtgaagaa ::::: ctgcta |
| ₩ H | Z H | M H | M H | M H |

Fig. 3L

| 1470 CTGG ::: CTG- | 1540 AGCA ::: | 1610 ACCG :: | 1680 TGTG::: | 1750 ATGT::TGA |
|---|---|--|---|--|
| 147 36GCCCTG :::::: | 1540 CTCAGAGCA :.: ::: CTG-GCA | I | CTGT ::: | 1 \AGA |
| 3999- | ICTO | CAAAG .: 1080 | CCGC | ICAA: |
| 1460 147 GCCTGGGGCCCTG : ::::::CGGACCCTG | 1530 TGCTGT ::: -GCGG- | 1600 TGCA(:::: | 1670 CAACACCAGC :::::::: CAACACCACC | 1740 GGACACTTCAAA :.: :.: -GGC-CATCTG- 1170 |
| TGAG | 3GTG | 3ACT ••••• | 1 4CAC :::: | 3GAC ::: |
| 1420 1430 1440 1450 1460 1470 TTCATTGGTACAGGATGGCTGGCTGTGAGGCCTGGGGCCCTGG ::::::::::::::::::::::: | 1520 1530 1540 GGAAAGTCTGGTGCTGTCTCAGAGCA :::::::::::::::::::::::::::::::: | 1560 1570 1580 1590 1600 1610 TGGCTCCCGCTCTCAGCTGTTCTCTGGCCGACTGCACAAGTACCG ::::::::::::::::::::::::::::::::::: | 0 1660 1670 1680 TGCCTGGAATGTCAACACCAGCCGCTGTGTG :::::::::::::::::::::::::::::::: | Ĕ i |
| 1450 AAGGCT::. | 1520 GGAAAGTCT :::: AAGGC- | 1590 TCTG(A1 | 1660 AATG: | 1730 ;cgaa(: |
| CTG2 | TGG/ | GTCJ .: | 16 CCTGGAA :::::: CCTGGCA | 1720 1730 :rggrccaacargrggcgaacr ::: ::::::::::::::::::::::::::::::::: |
| ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | .0 :CCAG ::.: :CCTG |) GCT .:: | :: ::: ::: |) ATG::: ATG: |
| 1420 1430 1440 ITCATTGGTACAGGAGATGGCTGGCT :::::::::::::::::::::::::::::: | 1500 1510 GGTGTTTGACCAGGAGCCAGT ::::::::: | 1580 TTCA(::. CTCT/ | 1650 CTGT(| 1720 CAACZ .:: |
| SATGG | CAGO :: | 158 TGGTT(.: : AG-CT(| TTA | 667C |
| 0 GAG <i>P</i> :::: GAT <i>P</i> | 0 TGACCA :::: -GACCA | 0 CAGC .:: | ACCCT | 0 ICIGG |
| 1430 CAGG | 1500 GTTTG2 : : 'GG2 | 1570 CCCGCTCTC;::: CCCGAACT-(| 1640 CAGGGA(:::: CAGGAC/ | 1710 CTTT |
| 3. S. | 1 AGGTG ::: GTG | ::: ::: :::1050 | 3CCA :: | GGTC : |
| 20 CATTGG ::.:: CAAGGG | 0 TGC2 | | 30 CCTG(:::: | 1700 GCTCGGGGT ::.:.: GCACAGTGG |
| | 1480 1490 1500 1510 ATCCACATGGTGGAGCAGGTGTTTGACCAGGAGCCAGT :::::::::::::::::::::::::::::::::::: | | 1620 1630 1640 1650 1660 1670 1680 TTTCTGTGTAGACTGTGCCAGGGACCCTTACTGTGCCTGGAATGTCAACACCAGCCGCTGTGTG ::::::::::::::::::::::::::: | |
| GTTO | GAGG :::: GAGG | TTG(| ACTG1 ::. ACA | GGTC((|
| 1410 CACCTATACAGTGTTG : : .:: CCGTGTCTG | 30 3GTG | 1550 AGAAGGTGCTCTTTGC ::::: TGCTCT | 20 7AGA : : | 1690 GCCACCACCAGTGGTC: : : |
| 1410 CACCTATACAG' : : . : :: CCGTGTCTG | 1480 ACATGG:: -CA | 1550 GTGCT ::: -TGCT | 1620 3TGTA | 1690 GCCACCACCAG : .:. GTTTTTCAA |
| ACCT77 | 1, CCACA:: CA: | AAG | TTTCT. | CAC |
| M CA | M AT H | M AG H | M TI .: H AT | M GC H GI |
| | | | | |

Fig. 3M

| 1760 1770 1780 1790 1810 1810 1820 1820 1820 1820 1820 1820 1820 1820 1820 1820 1820 1820 1820 1820 1830 1840 1850 1850 1870 1880 | | | | | | |
|---|------|---|---|--|--|--|
| 1760 GTAACCAGTATGGCAT :::::::::::::::::::::::::::::::::::: | 1820 | ACAGACCT | D I | 1960 ACAGTCCC ::: ::: CCAGCCCC | 2030 PACCTTGT :::::: | 2100 CGTGTGG :::::: |
| 1760 GTAACCAGTATGGCAT :::::::::::::::::::::::::::::::::::: | 1810 | :: : ::: ::::::::::::::::::::::::::::: | 1880 :AAGCCAGGA::::::::::::::::::::::::::::: | 1950 ATGGCCGCA::::::::::::::::::::::::::::::: | 2020 CAGAAAGCT :.::::::::::::::::::::::::::::::::::: | 2090 .ccTGGGGCT :::::::::: .ccTGGGGGCT |
| 1760 GTAACCAGTATGGCAT :::::::::::::::::::::::::::::::::::: | 1800 | : : : : : : : : : : : : : : : : : : : | 1870 SACCTTCGG :: SAGG | 1940 CTGGTGGTG ::::::::::::::::::::::::::::: | 2010 SACTGGCTG :.:::::: SGCTGGCTG | 2080 CTTGGAAAA : :::::: CCTGGAAAA |
| 1760 GTAACCAGTATGGCAT :::::::::::::::::::::::::::::::::::: | 790 | CAAGAACA1 :: CA(| 860 GCCCACTGC .:: : : : ACCATC | 930 TCCAGGCG(::::: -CCAGGCC(| 000 GGGGACAA(:::::: GGGGGCGC(| 070 CGGGCTCCC ::::: CGGGCCCCC |
| 1760 GTAACCAGTATGGCAT :::::::::::::::::::::::::::::::::::: | 30 | ATCTATTCC :: ATC | 1 TGGCCCAT .:: .: AAGGAGT | 1 ACACGGGAC ::::::: | 2 MGAGGAGCA MGAGGAGCA 1340 | 50 2 |
| 1760 GTAACCAGTATGGCAT :::::::::::::::::::::::::::::::::::: | 178 | AAAGTCAGA ::: ::: -AAGAGZ 190 | 185 CGTCCAATT :::: | 192 TCTTTATGA::: | 199 TGCTATTCA:::: TGCTTTTCA | 206 CGGTGACAC :::::: CGGTGACCT |
| | 1770 | CAT. | 1840 ;ccaccrcr: ;cc | GGCT ::: -GCT | 1980 CCTATCGT:::::::::::::::::::::::::::::::: | 2050 CGGCTCGT::::::::::::::::::::::::::::::: |
| | 1760 | ACCAGTATG :::::::: | 1830 CCTACCCTG | 1900 GAACAACCT:::GTGGGACC- | 1970 ACTCTGGAC : ::: | 2040 TGTCGTGGC ::::::::::::::::::::::::::::: |
| | | | | | | |

| 2170 CCGGCGAC ::::::: CCGGCGGC | 2240 .crgcccaa ::::::: .crgcccaa | 2310 TCGGGTAC ::::::: TCGGTTAC | 2380 GCCCCCTT :::::: GCCCCCTT | 2450 GGTCGGAA :: :::: GGGCGGAA 1790 |
|---|--|--|---|---|
| 2160 2170 CTATCGCTCCGCCGGCGAC :::::::::::::::::::::::::::: | 2230 .ccccTTGGAAC :::::::::::::::::::::::::::::::::: | 2300 TGGGATCCTG7 :::::::: TGGGATCCTG7 | 2370 CTGGGGGTGGG: ::::::::::::::::::::::::::: | 2440 CCTAGGAGGT(::::::::::::::::::::::::::::::::::: |
| 2120 2140 2150 2160 2170 CCTGGGGGCTGTGCTGCTGCTGCTGCTCCTATCGCTCCGGCGGCGAC :::::::::::::::::::::::::::::::::::: | 2190 2200 2210 2220 2230 2240 AAAGGGTGCCAAGGCATCTGAGAGGACACTGGTGTACCCCTTGGAACTGCCCAA .::::::::::::::::::::::::::::::::: | 2280 2300 2310 2311 CCCGAAACTGATGAGAAACTTTGGGATCCTGTCGGGTA :::::::::::::::::::::::::::::::::::: | 230 2340 2350 2360 2370 23 ICTCAAGATTGTGCCTGGTCACGCCCGGTGCCAGCCTGGGGGTGGGCCCCC ::::::::::::::::::::: | 400 2410 2420 2430 2440 2450 credeccaecrages 2440 2450 credeccaecraecraecraecraecraecae 2450 credeccaecraecraecraecraecraecraecae 2450 ccaeccaeccaecraecraecraecraecraecraecrae |
| 2120 2130 2140 2150 CCCTGGGGGCTGTGCCTGCTGCTGCTGGTGTTGTTGTTGT | 2210 AGAGGACACTO :::::::::::::::::::::::::::::::::::: | 2280 AACTGATGAG; : :::::: ACCAGATGAG; | 2350 CACGCCCGGT(::::::::::::::::::::::::::::::::::: | 2420 crccaacrcgc :::::::::::::::::::::::::::::::::: |
| 2130 GTGCCTGGTGG:::::::::::::::::::::::::::: | 2200 :AAGGCATCTGA:::::::::::::::::::::::::::: | 2270 CTGGCCCCGAN : ::::: CCTGTCCTGAN | 2340 TGTGCCTGGT .:::::: | 2410 CCTCTGCCTT(:::::::::::::::::::::::::::::::::: |
| 21 SGGCTGTGT ::::::::::::::::::::::::::::::::: | 22 3GGTGCCAA .::::::: | 2260 2270 CCCTTCCGTCCTGGC ::::::::::::::::::::::: | 23 ICAAGATTG : :::::: ITAAGATAG | 24 TGGCCAGCC .:::::: AGGCCAGCC |
| 2120 GGCCCTGGG(:::::::::::::::::::::::::::::: | 2190 CTAGAAAAG :::::: CTGGAGAAA | 2260 GTCCCCCCT:::::::::::::::::::::::::::::: | 2330 .rggcrcrcr .:::::: .rggcrcccr' | 2400 GGCATACCT ::::: ::. |
| 2110 2120 2130 2140 2150 2160 2170 CTCGCTGTGGTGGCCCTGGTGCCTGGTGCTGCTGGTCCTATCGCTCCGCCGGCGAC :::::::::::::::::::::::::::: | 2180 2230 2240 2240 2220 2220 2230 2240 TTCGAGAAGAGCTAGAAAAGGGTGCCAAGGCATCTGAGAGGACACTGGTGTACCCCTTGGAACTGCCCAA : :::::::::::::::::::::::::::::::: | 2250 2260 2270 2280 2290 2300 2310 GGAGCCTGCCCCCCTTCCGTCCTGGCCCCGAAACTGATGAGAAACTTTGGGATCCTGTCGGGTAC :::::::::::::::::::::::::::::::::::: | 2320 2330 2340 2350 2360 2370 2380 TACTATTCGGATGGCTCTCTCAAGATTGTGCCTGGTCACGCCCGGTGCCCAGCCTGGGGGTGGGCCCCCTT ::::::::::::::::::: | 2390 2400 2410 2420 2430 2440 2450 ccccaccTcGGCTCCACCTAGGAGGTGGTCGGAA :::::::::::::::::::::::::::::::::: |
| ∑ н | Z H | M H | M H | N H |

Fig. 30

| 2520 :ACCCACTG ::: ::: | 2590 .cccagagg .:: ::: .ccccaagg | CTCTTAA :::::: GCTCCTA- | CACTGCC :::: | 2790 TCACCAGG ::::::::::: TCACCAGG |
|---|---|--|---|--|
| 2510 GGATCTGGGCACCC:::::::: GGGCTCGGGCACCC | 2580 CTGACTCCAAC : :::::::::::::::::::::::::::::::: | 640 2650 CTCATGGGAGGTGCA-CTCTTA :.:::::::::::: | 2720 TGGGACAGP:::::::::::::::::::::::::::::::: | 0 2770 2780 2790 AGCATGGGCACTGCCACTTGGTGTGGCTCACCAGG :::::::::::::::::::::::::::::::: |
| 2500 CCGAGGAGG ::::::: CCGGGGAGG | 2570 CCGCTGCCT :::::: CCACTGCCC | 2640 GTCTCATGG :::: CGTGG | 2710 TGCTCTGCC::::::: TGCTCTGTC | 0 278 CTGCCACTT(:::::: CTGCCACTT(|
| 2490 CGGAGAGGAC :::::::::::::::::::::::::::: | 2560 .cagcgccagcc :::::::::::::::::::::::::::: | 2630 .cgggggggg .::::: .cgggAgg | 2700 AGGGGCACT::::: | 2770 scargegeacy:::::::: |
| 2460 2470 2480 2500 2510 2520 CTCAAATGCCAATGGTTATGTGCGTTTACAGTTGGGCGGAGGACCGAGGAGGATCTGGGCACCCACTG :::::::::::::::::::::::::::::::::::: | 2530 2540 2550 2560 2570 2580 2590 CCTGAGCTGGCGGATGAATTACGACGGAAACTACAACAGCGCCAGCCGCTGCCTGACTCCAACCCAGAGG ::::::::::::::::::::::::::: | 2600 2610 2620 2630 2640 2650 AGTCTTCAGTATGAGGGACCCCCCCCCCCCCTCATTGGCGGGGGGGG | 0 2710 2720 CITITGCACAGGCACCAGCTACCTCAGGGACATGGCAGGGGCCACTTGCTCTGCCTGGGACAGACA | 276 TGCTC 2100 |
| 70 24 TGTGCGTTT :::::: CGTGCGCTT | 0 28 | 26 CCCCCCCA(:::::: ACCCCC-A(1960 | 2680 .GCTACCTCAG(::::::::: .GCTACCTCAG(| 2750 ;TGAGGACCTGCTC :::::::::::::::::::::::::::::::: |
| 2470 AATGGTTATG' ::::::::: AATGGTTACG' | 530 2540 TCGCGGATGAATT ::::::::: TCGCGGATGAACT | 2610 ATGAGGGGAC ::::::: ATGAGGGGAA | 0 GGCACCAGC ::::::: GGCACCAGC | 740 27 GCCGGCCGTG .:::::::: |
| 2460 CTCAAATGCCAATGGTT::::::::::::::::::::::: | 2530 CCTGAGCTCGCGGATGA :::::::::::::::::::::::::::::::::::: | 2600 2610 AGTCTTCAGTATGAGGGGACCCCCCC ::::::::::::::::::::::::: | 2670 ITTTGCACAG(:::::::: ITTTGCACAG(000 | 0 2740 catcatttgcc::::::::::::::::::::::::::::: |
| 5 . 5 | M H | M A(: | 2660 M CT H CT | 2730 M CA :: H CA 20 |

Fig. 3F

| | | | | · |
|--|--|--|---|--|
| 2800 2810 2820 2840 2850 2860 ACTTCAGCCTCCAGGAGACA-CACCCTCCTCTCTCTCTCTCTCTCTGTGAGACATGGGGACCCCAGCAGCCCAAA :::::::::::::::::::::::::::::::::::: | 2870 2880 2890 2900 2910 2920 ACTITGCAAGGAAGAGTITCAAGAIGIGGCGTGITIGGTTTGTGTTGTTGTTGTGAA :::::::::::::::::: | 340 2960 2970 2980 2990 STGTGTGTGTGTTGTAACTTTCCTGTCTCTATCACGTCTTCCCTTGGCCTGG 3.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 | 3010 3020 3030 3040 3050 3060 [GGTTGAGTCTTTGGAGGGGAAGGGGGGTCATAGCACTTTGCTTCTCCTACCCCC ::::::::::::::::::::::::: | 3070 3080 3100 3110 3120 3130 AGCTGTCCCAAGCTTTGGGGCAGTGATGTACATACGGGGAAGGGACAGGGTGTTGTACCCCTTTTG :::::::::::::::::::::::::::::: |
| 2800 2810 ACTTCAGCCTCACAGG | 2870 ACTTTGCAAGGAAGAG ::::: ::: ::: ACTTTTCAAGGCAGAA | 2940 AATGTGTGTGTGT :::: . : TGTGTGTGCACGC 280 | 3000 31CCTCCTGGT ::::::::: -TCCTCCTGGT | 3070 3080 AGCTGTCCCAAGCTTT : ::: :::::: A-CTGCCCCGAG-TGT 2420 2 |
| м н 9 од - 2 | M H H A S | 2930 M G H G | ∑ н | M H A |
| | | | | |

Fig. 3Q

| GGTT:: | b | b | TTA ••• | 3GA |
|---|---|---|---|--|
| 666 666 666 | 3270 TCCG(: : CCGG(| AAG ::: AAG | GTG::: | AT6 |
| 3200 GCGG : :: GTGG | 3, cccr :: Gcccc 2610 | .0 ;AGGG; ;::: ;AGAG; 2680 | 3400 -AACAGTGTA ::::::: TAACAGTGTA 2750 | 3470 TAAA |
| 33, | 1960 1960 2 | 3330 GGGA(:::: GGGA(| 3 A : CTA | 3 1AAT |
| TCAG(::::TCAG(Z540 | CT1 | 33 | ;; ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | 1CA2 |
| 0 11 11 | 3260 CCAC' :::: CCAC' | 3330 FTGTTGGGGGAGGGAAGGG ::::::::::::::::::::: | 0 990 990 0 | 460 ATTGF ::::: ATTGF 2810 |
| 3190 TGTT | 32 CTCCC :::: | 0 TTGT" ::: GTGT(| 0 AAGG(.::3 GAGG(2740 | 0 ATTTTTATATTGA ::::::::::::: ATTTTATATTGA 00 2810 |
| 30 30 | | 3320 GT: GCTG' | 3390 GAAA :::: GAGG | LTA: |
| GTGA.::::GTGA. | 3250 GCAG(: :: GTGG(| .: .: | .: .: .: .: .: .: .: .: .: | |
| 80 GCI GCI | 32 TGGGC :::: TGGGT 2590 | 3310 ACAGGGCTGGGAAGGG ::::::::::::: ACAGGGCTGGGAAAGG 50 | 0 GCTCT :: :: .GCCCT | 3450 AGTAT:::::AG-AT: |
| 3180 AGGGC' ::::: | 0.10 0.10 0.10 0.10 | TGG ::: TGG | 3380 CCTGC ::::: CCAGC | 34 GAG ::: GAG |
| :::::::::::::::::::::::::::::::::::::: | . :: 1GG(| 3310 .GGGC! .::: | 33 33 33 33 33 33 33 33 33 33 33 33 33 | E •• E E •• E E •• E |
| 101 101 101 101 101 101 101 101 101 101 | 3240 GGAG :::. GGAA | 3.7 7.8G(3.3.8 3.3.8G(| |) \TA' \::: \TA' |
| 3160 3170 3180 3190 3200 GGGGGTGGGCCTAGCCTCCTAGGGCTGTGAATGTTTTCAGGGCGGGGTT ::::::::::::::::::::::::::::: | 3230 3240 3250 3260 3270 CCTCCTGCTTCAGGGGGGGGGGGGCCACTTGCCCTCCGGG :::::::::::::::::::::::::: | i Filo | 40 3350 3360 3370 3380 3390 3400 AGGAGGTGGGCATGCTATCCTCTCCTCTCTGGGAAAGGGCTAACAGTGTA ::::::::::::::::::::::::::::::::::: | 3410 3420 3430 3440 3450 3460 3470 ACTTATTGTGTCCCCACATATTTGTTGAATATTTTGAGTATTTTTATATTGACAAATAAAT |
| 8 U U U U | CAG TGG | - TG - TG - CTG | 3370 CTAT(:: ATAC' | TG1 IG1 |
| CTAG(:::: CTAG' 2510 | 30 -TT- 3TT- | 3300 TCTTC ::::: TCTTC | ო ე ც ე ც | rer. rer. |
| | 3230 :T: :GTGT | 3300 TCTT: :::: | 7.1.GC 7.1.GC | 3430 TTATT: ::::: TTATT |
| 3160 TGGG :::: | 3; TGC: TGTG' 2570 | 3 CGCT: CCTT | .0 TACT(::: CAAT(2710 | 3430 TTATI :::: TTATI |
| | $0 \cdot 0 \\ 0 \cdot $ | O TTTGC :::: CTTGC | 3360 GGATZ ::: GGACZ | TAT ::: TAT |
| CGGGG ::: -TGGG | | 290 IAT | rat : IGT | ACA .:. GCG |
| 3150 GACT ::: | 3220 GGAGATGGAA ::::::- AGATGGAG | 3280 TTCGGTGGTATTTTAT ::::::::::::::: TTCAGTGGTATTTTAT 2620 | 340 AGGAGGTGGGCATGCT. :::::::::::::::::::::::::::::::::: | 3420 CCCCA :::: |
| 3140 3150 GGGGAGTGCGGGACT .::::::::: AGGGAGTGCAGGGCT 2490 | 322 GATGG ::::: GATGG | 1111 1111 | 3350 GGCAT ::: | 34 GTC(GTC(|
| GCG ::: GCA 90 | GAG :: -AG | 0 GTA ::: GTA | 335 | GTG ::: |
|) \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | O I | 3280 CGGTGG :.::: CAGTGG | 40 aggaggīg :::: agagggīg 2690 | 0 ATTG: :::: ATTG' 0 |
| 3140 3GGGAG .:::: | 3210 GGGGGT ::: GGG | TCG(:TCA) | 0 GGAG : . : GAGG | 3410 ACTTA::::ACTTA |
| | | | \sim | |
| f X $f H$ | Σ Ξ | M H | m Z | M H |

| 79 | 158 | 2 2 8 8 | 2 | 48 348 | 68 408 | 88 468 | 108 528 |
|--|---|------------------------------|-------------|---------------|----------------|-----------|----------------------------|
| SGCC | CTGC | L | STCT | R AGA | E GAG | K AAA | N AAC |
| GCGCGCGGGGCCATCCAGACCCTGCGGAGAGCGAGGCCCGGAGCGTCGCC | CCTGGCGGCCGAAGGAACCGCCCCAAGAAGAGCCTCTGGCCCGGGGGCTGC | L CTA (| A GCT | H CAT | R AGA | D GAT | 9 9 9 9 |
| GGAC | SCCGC | V GTT (| K AAG | I ATA | EGAA | E GAA | D GAT |
| 3666 | CTGGC | L CTG (| P CCA | T I C | LCTA | D GAT | S TCA |
| 3CGA(| CCTC | L CTT (| GGT | F F TTC | N AAC (| V GTG | K AAA |
| BAGAG | AAGAG | T ACG (| R AGA | N AAC | GGC | E TTT | TACA |
| 16060 | AAGE | F TTT 7 | A GCA | A GCA | CCC | I ATT | TACC |
| ACCCI | ာသည | | C TGC | E Gaa | T S ACT C | E GAG | P A CCA A |
| CAG | AACCO | ACT A | H CAT | E GAA | F | R AGA | G GGA |
| CATC | AAGG7 | CAGE | P CCT | K AAA | L | A GCC | K AAA |
| 36660 | <i>1</i> 5005 | TTG | T T T | S TCA | E | E GAA | A GCT |
| GCGG | 95255 | M TTTGACAGTTGCCAGACT ATG | G GGG | T ACA | CIG | E GAG | S TCA |
| | | | L | 표 표표 표표 | D GAT | Y TAT | Y TAT |
| GTGG | ;AGGG | TLLC | T ACC | V GTG | T T T | N AAT | E GAA |
| ACGC | ACCG | ZACAG | V GTT | E GAA | N R AAT AGA | C TGC | Q CAG |
| GCGG | GGAG | GGAC | T ACA | E GAA | | L | \mathbb{M} |
| GTCC | 2002 | 9999; | CCC | G GGA | Y TAT | E GAA | H H H H H H |
| ACGC | ;AGGG | GTGC | L CTG | A GCG | L CTG | E GAA | A GCA |
| GTCGACCCACGCGTCCGCGGACGCGTGG | GAGGTTTGAGGGCGCCGGAGACCGAGGG | TGGAACATGTGCGGGGGGACACAGTTTG | Q CAA | H CAT | CII | N AAT | I ATT |
| GTCG | GAGG | TGGA | S AGC | K AAG | R CGC | C HCC | T ACG |

Fig. 4A

| 128 588 | 148 648 | 168 708 | 188 768 | 208 828 | 22.7 | 964 | 1043 | 122 |
|------------------|----------------------|------------|----------------------|----------------|----------------|---|---|---|
| | | | | | α | | | 11 |
| L TTG | H CAT | R AGA | S TCT | P CCT | | 3CA(| CCL | 3AG(|
| H H H H | Q CAA | R AGA | CCT | Y TAT | * TGA | CCA | \TTA(| 3GCA(|
| V GTA | L CTA | THC THC | T TTA | P CCA | H CAC | 'AAT | AAAA | GGAC |
| G GGA | R AGG | I ATT | G GGA | P CCA | SHICH | CTGI | TTC | CCTG |
| A GCT | N AAT | I ATC | A GCA | PCCA | P CCA | ATGC | AAAA | CGAA |
| A GCT | $_{\rm TGT}^{\rm C}$ | S | D A G GAT GCA GGA | P CCA | H L | GCTC | ACTA | TGCT |
| I ATT | K AAG | CCC | E GAG | S T TCA C | STCT | GGTG | CTCT | GAAT |
| L TTA | | T ACT | | V GTT | M ATG | GCAT | CGGT | AGGA |
| GGA | I T ATC ACT | H | STCT | | S M TCT ATG | 5500 | AACC | AAGC |
| T ACT | C TGT | R AGG | CCT | H CAC | K AAA | TAGG | GTGA | GCIG |
| L | CTT | | | K AAA | K AAA | TTGA | CATG | GGAG |
| CIT | Y TAT | R AGG | | | H H H H | TTAT | CCAA | CTTG |
| GGC | Y TAC | E | P CCA | T R ACC AGA | V GTA | TGTG | CTGG | CCTA |
| M ATG | 999 | Y TAT | S TCT | CIG | R AGG | AATT | CAGC | ccca |
| V GTT | L | V GTC | L TIG | A GCG | TH H | AAGA | AGAC | TAGT |
| D GAT | L TTA | A GCC | A GCC | V GTG | G GGA | GTAT | TTCG | CCTG |
| I ATA | GGA | S TCA | A GCT | A GCA | K AAA | ${ m TTTG}$ | GGAG | CATG |
| K AAA | F TTT (| STCT | E GAG (| Q CAG (| T ACA | CTACCTTGTCATTTTGGTATAAGAAATTTGTGTTATTTGATAGGCCGGGCATGGTGGCTCATGCCTGTAATCCCAGCAC | TTTGGGAGGCCAGGAGTTCGAGACCAGCCTGGCCAACATGGTGAAACCCGGTCTCTATAAAAATTCAAAATTACCTA | GGCGTCATGGGGCATGCCTGTAGTCCCACCTACTTGGGAGGCTGAAGCAGGAGAATTGCTCGAACCTGGGAGGCAGAGG |
| E GAG | I ATT | C | E GAG (| E GAA (| H CAC | CTTG | GGAG | TCAT |
| R AGA | V GTT | P CCA | PCCT | Y TAT | 9 | CTAC | TTTG | 9299 |

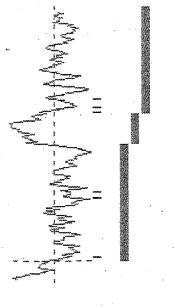
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Fig. 4B

2386 2070 2149 2465 1596 2228 2307 1675 1833 1912 1991 GAAGAAGAAGACCACAAAAGACATGACTATCCAACTTTTTATGACAAACTGCAAGGAATAAAGGAATAAGTCCATG CATAGGTAGAATTAGTGAACTCTTTGGATCCTTTGTACAGATAAAGGTTATAGATTTCTTGTGTTGAATATTAAAAAG CAAGGATGTCTAACCATTAAGATTATCCAAAGTCAGGCTGGGCGCAGTGGCTCACGCCTGTAATCCCAGCACTTTGGGA TGAACTCGGGAGGTGGAGGTTGTAGTGAGGCGAGATTGTGCCATTGCACTCCAACCTGGGCGACAGAGTGAGACTCCAT GATTTGCAAGGGTTGTTATGCTATCAAATAAACAGACCTAAAATCTAGGAGACACTAGAACTTAATGAAGTTGCCCCTG GGGATAGGTGGGCGGATCACCTGAGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGCAAAAACCCCGTCTCTACAAAA TTACTGATTAGTAAATACTCCCATCTTCGTTGCAAAATTATCTCTCTGTATAACTACATATGATTTTTTGAAATTTGT TACTGTACCACAGAAGTTCTGTCTGCATCTTGGACCTGAACTTGATCATTATCAGCTTGATAAGAGACTTTTTGACTCT <u> TAAACTTCATAAGTAATAGTTTGAGAATGTGGAAAAGTAATTTGCTTTTTCTGCTCTTAAAATAATATTGATTAATGTT</u> accagaaaaaaaaaaaaaaagggggggg

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Fig. 4C



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| GTCGACCCAC GCGTCCGCTG CGTTCTCACC CCTGGACCAC CCTGGGAGAA CAGTTGACCGAAACTTGTTT GGCAGTTGCT GCTGGACT ATG TTT CTG CTT CTG GTG GTA CTC Met Phe Leu Leu Leu Val Val Leu AGC CAG CTG CCC AGA CTT ACC CTC GCG GTT CCT CAT ACA AGA AGC CTA Ser Gln Leu Pro Arg Leu Thr Leu Ala Val Pro His Thr Arg Ser Leu Lys Asn Ser Glu His Ala Pro Glu Gly Val Phe Ala Ser Lys Lys Ala 25 GCA AGC ATC TTT ATG CAC CGT CGC CTC CTA ACA AGA AGA GCA Lys Asn Ser Glu His Arg Arg Leu Leu Tyr Asn Arg Phe Asp Leu 50 GCA AGC ATC TTT ATG CAC CGT CGC CTC CTA TAC AAT AGA TTT GAT TTA Ala Ser Ile Phe Met His Arg Arg Leu Leu Tyr Asn Arg Phe Asp Leu 56 GAA CTC TTC ACT CCC GGG AAC CTG GAG AGG GC TAT GAG TTC Glu Leu Phe Thr Pro Gly Asn Leu Glu Arg Glu Cys Tyr Glu Glu Phe 60 TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GAC AAC GAA GAA ATG TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG GAC AAC GAA GAA ATG TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA ATG TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG GAC AAC GAA GAA GAA GAA TGT AGT TAT GAA GAA GCC AGA GAG ATC CTC GGG GAC AAC GAA GAA GAA GAA GAA GAA GA |
|--|
| ाव वात वाच ाव वात भार |

Fig. 4E

| 400 | 448 | 496 | 544 | 592 | 640 |
|------------------------|-------------------|-------------------|-------------------|----------------------------------|-------------------|
| | 4.1.0 | F. () | F | | |
| TCA Ser | TTA Leu 120 | TAT Tyr | GCT Ala | ACC | GGA Gly |
| AGA Arg | GGC Gly | TAC Tyr 135 | TCA Ser | AGA Arg | GCG Ala |
| ACA Thr | ACT Thr | GGT Gly | TCT Ser 150 | TTC Phe | GAC Asp |
| ACC Thr | CTG Leu | CTT Leu | GGT Gly | ATT Ile 165 | GAG Glu |
| CCA Pro 100 | CTT Leu | TTA Leu | CAA Gln | ATC Ile | TCA Ser 180 |
| GGA Gly | GGC G1y 115 | GGC Gly | TAT Tyr | ICC Ser | ICC Ser |
| AAA ${ m L}\gamma$ s | ATG Met | TTT Phe 130 | CCA Pro | CCG Pro | TCA |
| GTC Val | GTT Val | GTT Val | CAG Gln 145 | ACA Thr | TCG Ser |
| TCA Ser | GAT Asp | GTT Val | AGG Arg | CAC His 160 | CCA Pro |
| TAT Tyr 95 | ATT Ile | TTG Leu | AAT Asn | AGG Arg | TCT Ser 175 |
| GAA Glu | AAA Lys 110 | TTC | $	ext{TGT}$ | ACC Thr | TTG Leu |
| CGG Arg | GAG Glu | GTA Val 125 | AAG Lys | AGG Arg | GTC Val |
| TGG Trp | AAA Lys | GGA Gly | ACC Thr 140 | AGA Arg | GCT Ala |
| TTC Phe | AAC Asn | GCT Ala | ATC Ile | ACA Thr 155 | GAA Glu |
| ACA Thr 90 | GTC Val | GCG Ala | $	ext{TGT}$ | $\mathtt{T}\mathtt{A}\mathtt{C}$ | GAG Glu 170 |
| ATC Ile | GAT Asp 105 | ATT Ile | CTG | GTC Val | CAT His |

| 88 | 736 | 783 | 843 903 1023 11443 1323 1503 1503 1503 |
|---|---|---|--|
| CTA CCT TCC TAT GAA CAG GCA GTA GCT CTG ACC AGA AAA CAC AGT GTC | TCA CCA CCT CCA TAT CCT GGG CCA GCA AAA GGA TTT AGG GTA TTT | AAA AAG TCA ATG TCA CTC CCA TCT CAC TAAGCCCACC TTGCCGCCTT | GCTGTGGTCT GAATAATATG TTCTTCCTGA AACAACACA ACAAAAAAT TTGCCTGTTC AGCTTTTTAT GACAAGCAC AAGGAATAAA GGAACACTAT ATACAGAACA GAATTCACCA CAGCCCCGCT TTCAGCTCTG CCCCCAACTG GATTGCTGTC TTGGTAAGAG TGCTTCCTCG AAGTTAAGAA GAAAGTGCCT TTTTGCAATG TAAACTGTAC TGGTTCAAAC ATTCTTGCTA CAGCTAGGTA CCTATAATCC CCACCTTCAG GAGACTTAGG GAGAGTTCAA GGCCAGCCTG GGCCCTGTCA GGACGTTAGG CGGAGGGAT GAGAGTTCAAA TTAGAATTAA CAAACTAGGA TTTTCAGTCT TAAGTCATGA TCTTCTTGCTA AAGGTTTCTT TTTGGCTAGA AATACTTCAT AGAATTTGCTA ACATCTGTGG CCTTGATACA ATGACTTGAT TTTCTGTTTT AATTAGTGCA GAGGATTCAG ACAAATTTGCA GGCCGCGG GTGGCCCACA CTTTCTGTTTT AATTAGTGCA GAGGATTCAG CAAATTTGCA GGCCCCCCCACA CTTTCTTTTT AATTAGTGCA GAGGATTCAG AGAGGAGTCA GCCAGGCGTG TTTCCCTC CAGCACTTTT CATTTTTTTAAAAACA AAACAAAAAC AAAGTCCAGG ACAACCGAGA CCACCACAGAG AAACCTTGTC TTGAAAAACA AAACAAAAAC AAAGACACAGAGA GAGAGAGA |
| Leu Pro Ser Tyr Glu Gln Ala Val Ala Leu Thr Arg Lys His Ser Val | Ser Pro Pro Pro Tyr Pro Gly Pro Ala Lys Gly Phe Arg Val Phe | Lys Lys Ser Met Ser Leu Pro Ser His | |
| 185 | 210 | 220 | |

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Fig. 4G

| GAGAAAAGAG ATGTCAAGAG GTTTTTTTTTTTTTTTTT |
|--|
| |
| AAATTACTAT GTTCAATCCT AACAAACAAA CTGAATCAGG GTCAGTGAGG GTTGGAGGACC |
| TTTTTTTTT AAGGACAGGA AAAAAACCAA GGCACTGTAA AAATAAGTAA AGCTCAGTGA |
| GTTTTTGTTT ATGCAAATAG AAAACAAACC CTCAGGGCTA ACAAATAAAT AGGCAGGCAG GCCAGGGCAC |
| ATGTCAAGAG AGTGCTTGCC AATAACAAGA TACCGGTAAC CGCTGTCTCA TGAGAGCCAA TTCTAAGGGA GGCGGCCGC |
| GAGAAAGAG ATGTCAAGAGCACACTTGGAAA AGTGCTTGCATGGAACA AATAACAAGGCTTGAGTGAA TACCGGTAAGTCAGGGAAA CGCTGTCTCAGGGAAA CGCTGTCTCAAGGCAAG TTCTAAGGGAAAAAAAAAG GGCGGCCGC |

Fig. 4H

| | | | | - | | | *. · | | |
|--|----|-----|-----|---------|-----|------|------|--|-----|
| 50 | 50 | 97 | 100 | 147 | 150 | 197 | 200 | 747 | 250 |
| 1 ATGTTTCTGCTTCTGGTGGTACTCAGCCAGCTGCCCAGACTTACCCTCGC | | 9 - | | GA - | | CI - | | 3 AGAGTGCTATGAGGAGTTCTGTAGTTATGAAGAAGCAGAGAGAG | AG |
| _ 1 | | 51 | 51 | 80 | 101 | 148 | 151 | 198 | 201 |
| Ŋ | H | ტ | 田 | ന | H | ტ | н | ტ | 田 |

Fig. 41

| 297 | 300 | 347 | 350 | 397 | 400 | 447 | 450 | 0 7 | 43/ | 497 |
|-------|--|-----|--|--|---|--|--|-----|-----|---|
| GGGAC | TGGATGAAGATAAAACGATTGCATTTTGGCAGGAATATTCAGCTAAAGGA | | CCAACCACAAAATCAGATGGCAACAGAGAGAAAATAGATGTTATGGGCCT | TCTGACTGGCTTAATTGCGGCTGGAGTATTCTTGGTTGTTTTTGGCTTAC | TCTGACTGGATTAATTGCTGCTGGAGTATTTTTGGTTATTTTGGATTAC | TTGGTTACTATCTGTATCACCAAGTGTAATAGGCAGCCATATCAAGGT | TIGGCTACTATCTTTGTATCACTAAGTGTAATAGGCTACAACATCCATGC | | | TCTTCAGCCGTCTATGAAAGGGGGAGGCACACTCCCTCCATCATTTT |
| 248 | 251 | 298 | 301 | 348 | 351 | 398 | 401 | 448 | - | 451 |
| ტ | н | ŋ | H | ڻ ڻ | H | ტ | Ħ | ۲ |) | H |

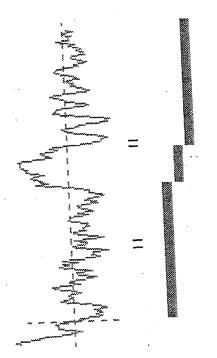
Fig. 4.)

544 547 594 597 644 647 CAGAACCCATGAGGAAGCTGTCTTGTCTCCAT...CGTCATCCTCAGAGG CAGAAGACCTGAGGAGGCTGCCTTGTCTCCATTGCCGCCTTCTGTGGAGG ATGCAGGATTACCTTCTTATGAACAGGCAGTGGCGCTGACCAGAAAACAC ACGCGGGACTACCTTCCTATGAACAGGCAGTAGCTCTGACCAGAAAACAC AGTGTTTCACCACCACCATATCCTGGGCACACAAAAGGATTTAGGGT AGTGTCTCACCACCACCTCCATATCCTGGGCCAGCAAAAGGATTTAGGGT 678 ATTTAAAAAATCTATGTCTCTCCCATCTCAC ATTTAAAAAGTCAATGTCACTCCCATCTCAC 548 498 545 645 498 598 648 Ç 出 \mathcal{Q} 田 G 耳 G 耳

Fig. 4K

100 149 150 198 199 50 LYNRFDLELFTPGNLERECNEELCNYEEAREIFVDEDKTIAFWQEYSAKG PTTRSDVNKEKIDVMGLLTGLIAAGVFLVVFGLLGYYLCITKCNRQPYQG MFLLLVVLSQLPRLTLAVPH.TRSLKNSEHAPEGVFASKKAASIFMHRRL LYNRFDLELFTPGNLERECYEEFCSYEEAREILGDNEEMITFWREYSVKG PTTKSDGNREKIDVMGLLTGLIAAGVFLVIFGLLGYYLCITKCNRLQHPC MFTLLVLLSQLPTVTLGFPHCARGPKASKHAGEEVFTSKEEANFFIHRRL SSAVY. ERGRHTPSIIFRRPEEAALSPLPPSVEDAGLPSYEQAVALTRKH SSAVYTRRTRHTPSIIFRTHEEAVLSP. SSSSEDAGLPSYEQAVALTRKH 226 SVSPPPPYPGHTKGFRVFKKSMSLPSH 150 50 199 200 51 100 101 151 \mathcal{O} 耳 \mathcal{O} 口 \mathcal{O} 出 \mathcal{C} Ξ r 出

Fig. 4[



3 3 5 5 5

| 10.01 | 10.01 | 10.01 | | | 10.01 | 9 2 |
|----------|------------------------------------|--|--|---|--|--|
| 152 | 212 | 46 | 332 | 39% | 106 | 126 |
| F TTT | H CAC | C TGC | Y TAT | CTT | Q CAA | G GGA |
| Q CAG | L | N AAC | L | S TCT | V GTT | PCCT |
| L TTA | L TTA | I ATT | F TTT | H CAT | F TTT | D GAT |
| G GGA | $_{ m L}$ | Q CAA | V GTT | CIT | A GCC | L TTA |
| C TGT | L TTA | R AGA | T ACA | GGA | K AAA | R CGC |
| M ATG | CTT | G GGG | S AGT | T ACA | P CCA | K AAA |
| GGAT | Y TAT | T ACT | E GAA | L TTA | Y TAT | I ATC |
| ACAGO | C TGT | C Hec | P | E GAA | V GTA | F TTC |
| 4AGAJ | TACC | CIC | F TTT | S AGT | Y TAT | N AAT |
| ATCC2 | V GTT | Q CAG | N AAT | E GAA | $_{ m CTG}$ | N AAT |
| SAAAZ | V GTT | C AGT | K AAG | N AAT | I ATT | N AAT |
| AACA(| L CTG | V GTT | PCCT | I ATA | N AAC | L CTA |
| | H H H H H | S | I ATT | Y TAT | S TCT | F TTT |
| CTGAT | L CTG | S ACG | S AGT | S TCT | N AAT | L CTA |
| AATT(| R CGA | C TGT | S TCG | I ATA | D GAT | 는 된 단 |
| ופככז | L CTA | G GGA | L | N AAT | $_{ m ITG}$ | Y TAT |
| TCL | C TGC | CIT | | N AAT | Y TAT | L CIA |
| CTT | P CCT | I ATA | | GGG | Γ | H CAT |
| TTTC | L | E GAA | N AAC | T ACT | A GCA | R AGG |
| CGA | S TCT | K AAA | R CGT | L | V GTA | L TTG |
| | C G L Q F TGT GGA TTA CAG TTT 1 | M C G L Q F ATTTCCTTGCCAATTCTGATCTGAAAATCCAAGAACAGGGAT ATG TGT GGA TTA CAG TTT 15 L P C L R L F L V V T C Y L L L L H 2 CTG CCT TGC CTA CGA CTG TTT CTG GTT GTT ACC TGT TAT CTT TTA TTA TTA CTC CAC 21 | ATTTCCTTTCTTGCCAATTCTGAACAGAAATCCAAGAACAGGGAT ATG TGT GGA TTA CAG TTT 15 L P C L R L F L V V T C Y L L L L L H 2 CTG CCT TGC CTA CGA CTG TTT CTG GTT GTT ACC TGT TAT CTT TTA TTA TTA CTC CAC 21 E I L G C S S V C Q L C T G R Q I N C 4 GAA ATA CTT GGA TGT TCG TCT TGT CAG CTC TGC ACT GGG AGA CAA ATT AAC TGC 27 | ATTTCCTTTTCTTCCCAATTCTGATCTGAACAGAAATCCAAGAACAGGGAT ATG GGA TTA CAG TTTT TTT TTTCTTCCCAATTCTGATCTGA | THE CTT TREE CRAPT CTGARGE GRAPH TREE AND THE CTG TITES TH | THE STANDARD AND THE ST |

Fig. 5A

| 9 0 | 9 2 | 9 7 | 9 7 | | / 109 | 10 | |
|-----------------------|-------------|----------|----------|-----------------|------------|------------|------------|
| 14 | 16(| 18(| 206 | 226 812 | 246 872 | 266 932 | 286 992 |
| F TTT | N AAT | D GAT | CIT | V GTA | T L L | N AAT | N AAT |
| SHCH | R AGG | L CTT | N AAC | E GAA | P CCC | RAGG | H CAT |
| V GTA | Q CAA | I ATA | E GAA | FITT | Q CAG | I ATT | S AGT |
| Q CAG | L CTA | R CGG | CTT | A GCC | I ATA | R AGA | L TTA |
| N AAT | N AAT | L | H CAT | N AAT | A GCA | S TCA | I ATC |
| Y TAT | $_{ m TTA}$ | A GCT | Q CAA | S TCA | E GAA | N AAT | L TTG |
| Q CAG | $ m_{TAC}$ | V GTT | F TTT | P CCA | I ATT | K AAA | H CAT |
| L TTA | Q CAG | M ATG | G GGC | V GTA | P CCT | L CTG | K AAA |
| Y TAT | V GTT | GGT | S TCA | K AAA | N AAT | CIC | L |
| L TTA | S TCA | V GTT | E GAA | T ACA | H CAT | CIC | N AAT |
| N AAT | V GTT | F | S TCA | L TTA | S TCT | Y | N AAT |
| R CGT | L CTA | T ACC | I ATA | N AAT | L TIG | E GAA | I ATT |
| CIT | D GAT | GGT | R AGG | N AAT | S TCT | L CIG | GGA |
| N AAT | N AAT | SAGT | L TTG | S AGT | CII | N AAT | S AGT |
| $_{ m L}$ | TTT | G GG | I ATT | G GGA | R AGA | A GCC | FLTT |
| CTT | V GTA | CTT | N AAC | $_{ m L}$ | R AGA | CTT | GGG |
| G GGA | G GGA | V GTC | N AAT | Y TAT | CTT | G GGA | D GAT |
| K AAG | R AGA | T ACT | N AAC | Γ | S AGT | K AAA | R AGG |
| H H H H H | P CCG | CIC | S TCA | $^{\mathrm{C}}$ | K AAA | FL | T ACT |
| I ATA | V GTT | CGC | L TTA | AGCT | L | A GCA | V GTT |
| | | | | | | | |

Fig. 5B

| | | | | 51 / | 109 | | |
|----------|----------|------------------|----------|-----------|------------|----------|--------------|
| 306 | 326 | 346 | 366 | 386 | 406 | 426 | 446 |
| 1052 | 1112 | 1172 | 1232 | 1292 | 1352 | 1412 | 1472 |
| K | S | K | K | Q | T | K | N |
| AAG | | AAG | AAA | CAG | ACA | AAG | AAT |
| CTT | A GCA | CTT | C FGC | C TGT | V GTT | H CAC | E GAA |
| Y | G | V | N | Y | C | H | L |
| TAC | GGA | GTC | AAC | TAT | TGT | CAT | |
| I | M | R | C | I | N | I | P |
| ATT | ATG | AGG | TGT | ATC | AAT | ATT | CCT |
| L | N | P | E | N | T | H | S |
| TTA | AAT | CCA | GAA | AAC | ACA | CAT | AGT |
| N | E | H | W | L | I | PCCT | g |
| AAT | GAA | CAT | TGG | CTA | ATT | | ggc |
| K AAG | F TTT | T.G. | PCCT | TACT | N AAC | S TCT | N AAT |
| L | T | A | N | I | I | K | T |
| TTA | ACA | GCC | AAT | ATT | ATT | AAA | ACA |
| Γ | D | T | S | A | Y | V | T |
| | GAT | ACA | TCT | GCC | TAT | GTA | ACC |
| S | N | L | N | S | R | V | V |
| AGT | AAT | | AAT | TCA | CGT | GTT | GTA |
| F | D GAT | N AAT | A GCA | S | L TTA | A GCT | K AAA |
| T | I | N | Q | A | A | W | H |
| ACA | ATT | AAT | CAG | GCA | GCA | TGG | CAT |
| D GAC | S AGC | H H H H | CTT | L CTA | R AGA | A GCT | \mathbb{W} |
| S | I ATT | S TCA | H CAT | $^{ m W}$ | 299 880 | R AGA | A GCC |
| N | I | LCTG | I | D | R | S | M |
| AAT | ATA | | ATT | GAC | CGT | TCC | ATG |
| L | R | N | TIG | R | M | V | M |
| TTA | AGA | AAT | | CGA | ATG | GTA | ATG |
| N AAT | N AAC | CTT | S TCA | CTT | S | N AAT | L CTA |
| E | R | I | S | | P | I | A |
| GAG | AGA | ATC | TCT | 9 | CCA | ATA | GCG |
| L TTA | D GAT | K AAG | Γ | $_{ m L}$ | PCCC | S TCA | TACT |
| D GAT | L TTA | L | P | L | N AAT | S TCT | T ACT |

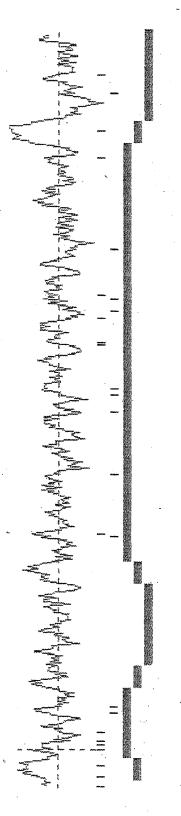
Fig. 5C

| | | | | 52 | / 109 | | |
|------------------|-------------|-------------|-------------|------------------|-----------------------|-----------------------|-------------|
| 466 1532 | 486 1592 | 506 1652 | 526 1712 | 546 1772 | 566 1832 | 586 1892 | 606 1952 |
| F T T T | I ATA | A GCT | E GAG | I ATC | R AGA | N AAC | I ATT |
| R AGA | Q CAA | D GAT | N AAT | T T T T | N AAT | C TGT | Q CAA |
| GGT | V GTG | N AAT | L TIG | H H H H | E GAA | I ATT | K AAA |
| A GCI | P CCT | P | K AAG | I ATT | R AGG | S TCA | H CAT |
| P CCT | L TIA | L CTA | E GAG | IATC | S TCA | A GCC | CII |
| S TCA | V GTG | A GCT | V GTT | L TTA | N AAC | T ACT | R CGA |
| T ACT | A GCA | S AGT | E GAA | V GTT | E GAA | V GTA | I ATT |
| PCCT | TACA | N AAC | Q CAA | C TGT | S TCA | N AAT | Q CAG |
| I ATT | TACT | K AAA | T ACA | A GCT | A GCA | $rac{Y}{TAT}$ | E GAG |
| R CGA | E GAG | E GAA | C TGT | L TTA | K AAG | R AGG | T C |
| E GAA | L TTA | I L | I ATT | I ATC | L CTA | A GCA | GGC |
| W TGG | P CCA | N AAC | L CTA | IIC TIC | K AAA | S TCA | CCT |
| F | N AAT | L | S | H H H H | Q CAA | Q CAG | S AGT |
| T ACT | GGT | TACC | T ACA | A GCT | K AAA | Y TAT | E GAA |
| I ATT | TTT | V GTT | K AAA | L CTA | H H H T T | H H H H H | L CTA |
| N AAC | A GCC | S TCT | GGG | T T T T | Q CAG | S AGC | S TCT |
| EGAG | N AAT | TACT | S TCA | I ATT | V GTT | Y TAC | N AAT |
| TACT | E GAG | T ACT | M ATG | D GAC | V GTT | Y TAC | P CCA |
| E GAG | Q CAA | L | S TCA | FTTT | K AAA | E GAA | S |
| T ACT | F TTT | Q CAA | A GCT | A GCT | Y TAC | CII | T ACT |

Fig. 5D

The common of th

Fig. 5E



Second Control of the ****

N TO THE SE

| 10 50 60 Slit MRGVGWQMLSLSLGLVLAILNKVAPQACPAQCS-CSGSTVDCHGLALRSVPRNIPRNTERLDLNG : : : : : : : : : : : : : : : : : : : | 70 80 100 110 120 130 lit NNITRITKTDFAGLRHLRVLQLMENKISTIERGAFQDLKELERLRLNRNHLQLFPELLFLGTAKLYRLDL ::::::::::::::::::::::::::::::::::: | 140 150 160 170 180 190 200 t SENQIQAIPRKAFRGAVDIKNLQLDYNQISCIEDGAFRALRDLEVLTLNNNNITRLSVASFNHMPKLRTF : .: .: .: .: .: .: .: .: .: .: .: .: | 210 220 240 250 260 270 t RLHSNNLYCDCHLAWLSDWLRQRPRVGLYTQCMGPSHLRGHNVAEVQKREFVCSGHQSFMAPSCSVLHCP :: 5VGMVA |
|---|--|---|---|
| Slit N | Slit N : 325 N | slit s | Slit R |
| 325 N | | 325 - | 325 - |

Hig. 5(

| 280 330 340 AACTCSNNIVDCRGKGLTEIPTNLPETITEIRLEQNTIKVIPPGAFSPYKKLRRIDLSNNQISELAPDAF ::::::: | 370 380 400 410 TELPKSLFEGLFSLQLLLLNANKINCLRVDAFQDLHNLNLLSLYDNKLQTIAKG :: SESGFQHLENLACL | 420 430 440 450 460 470 480 TESPLRAIQTMHLAQNPFICDCHLKWLADYLHTNPIETSGARCTSPRRLANKRIGQIKSKKFRCSAKEQY :: :: 210 | 510 520 530 540 550 FADLACPEKCRCEGTTVDCSNQKLNKIPEHIPQYTAELRLNNNEFTVLEATGIF .:.:SNAFEVLKS |
|--|--|---|--|
| 330 KKLRRIDLSNNQI :::::::: LRILDLSNNNI | 0 400 DAFQDLHNLNLLSLY::::::: | 470 ANKRIGQIKSI | 540 YTAELRLNNN! .:. |
| 320 VIPPGAFSPYI | 390 INCLRVDAFQDL :::: SGFQHL 200 | 460 SARCTSPRRLA | 530 QKLNKIPEHIPQY .:.:: -NLTKVP |
| 310 IRLEQNTIK | 380 :QLLLLNANK: | 450 ADYLHTNPIETS(:: :: YLGSN | 520 STTVDCSNQKI |
| 300 PTNLPETITE | 370 PKSLFEGLFSI | 440 SDCHLKWLADY.: | 510 ACPEKCRCE(|
| 290 DCRGKGLTE1 | 360 'LYGNKITELE ::: ISE | 430 :MHLAQNPFIC | 500 KLSGDCFADI |
| 280 AACTCSNNIV | 350 360 QGLRSLNSLVLYGNKI :: : | 420 TFSPLRAIQT | 490 500 FIPGTEDYRSKLSGDC |
| Slit 325 | Slit 325 | Slit 325 | Slit 325 |

Fig. 5H

| 560 570 580 590 600 610 620 t KKLPQLRKINFSNNKITDIEEGAFEGASGVNEILLTSNRLENVQHKMFKGLESLKTLMLRSNRITCVGND :::::::::::::::::::::::::::::::::: | 630 640 650 670 670 680 690 t SFIGLSSVRLLSLYDNQITTVAPGAFDTLHSLSTLNLLANPFNCNCYLAWLGEWLRKKRIVTGNPRCQKP :::::::::::::::::::::::::::::::::: | 700 710 720 730 740 750 760 t YFLKEIPIQDVAIQDFTCDDGNDDNSCSPLSRCPTECTCLDTVVRCSNKGLKVLPKGIPRDVTELYLDGN : | 770 780 800 810 820 830 t QFTLVPKELSNYKHLTLIDLSNNRISTLSNQSFSNM-TQLLTLILSYNRLRCIPPRTFDGLKSLRLLSLH ::: ::: ::: ::: ::: 5 TFSLLKNLIYLKLDRNRIISIDNDTFENMGASLKILNLSFNNLTALHPRVLKPL 300 320 330 |
|--|---|--|---|
| Slit F | slit s | Slit Y | Slit Q |
| 325 - | 325 G | 325 - | 325 T |

Fig. 5

| 860 870 880 890 900 LSHLAIGANPLYCDCNMQWLSDWVKSEYKEPGIARCAGPGEMADKLLLTTPSK | | 930 940 950 960 970 PCLSNPCKNDGTCNSDPVDFYRCTCPYGFKGQDCDVPIHACISNPCKHGGTCH : : : : : : : : : : : : : : : : : : : | 1000 1010 1020 1030 1040 EGENCEVNVDDCEDNDCENNSTCVDGINNYTCLCPPEYTGELCEEKLDFCAQD : .:: 400 | 1070 1080 1090 1100 1110 KCDCTPGYVGEHCDIDFDDCQDNKCKNGAHCTDAVNGYTCICPEGYSGLFCEF :: |
|---|---|---|--|--|
| 890 FARCAGPGEM? | | 960 CDVPIHACIS : : -CQNP | 1030 CCPPEYTGELC | 1100 TDAVNGYTCICE :: TSSIN |
| 880 WKSEYKEPG1 | : : : VLAS | 950 CTCPYGFKGQI | 1020 CVDGINNYTCI :: | 1090 NKCKNGAHCTI |
| 870 CDCNMQWLSDV | :::::::::::::::::::::::::::::::::::::: | 940 CNSDPVDFYR(: | 1010 EDNDCENNSTCV: ::: | 1080 CDIDFDDCQDI |
| 860 HLAIGANPLYO | :: .:: HLQANSNPWEC | 930 LSNPCKNDGT(| 1000 ENCEVNVDDCI | 1070 DCTPGYVGEH |
| 850 SAFNDLSALSI | ::: 350 | 920 /NILAKCNPC::: | 990 WCICADGFEGI | 1060 CILTPKGFKCI |
| 840 850 GNDISVVPEGAFNDLSA | 1 | 910 920 KFTCQGPVDVNILAKCNI::SAITLNI | 980 990 LKEGEEDGFWCICADGF! : | 1050 1060 LNPCQHDSKCILTPKGF1 |
| Slit | 325 | Slit 325 | Slit 325 | Slit 325 |

Fig. 5.

| 1180 SAKVRPQTN :: WHKV | 1250 :LLALDQSLS ::::. | 1320 ISELQDFQKV : .:. QEVEKL 520 | 1390 CLPINAFSY : : |
|--|---|--|---|
| 0 1170 118 VSVNFINKESYLQIPSAKVR : : : : : | 1240 INDGNFHIVE: FGNP-LETTA | 1310 HGCIRNLYIN : | 1380 CLGNKCVHGT |
| 1160 KCEKLVSVNF | 1230 1240 1250 HPASAIYSVETINDGNFHIVELLALDQSLS :: .: .: .: .: .: .: .: .: .: .: .: .: . | 1300 QAPGQNGTSF | 1370 PLCDQRTNDP |
| 1120 1170 1180 1180 1160 1170 1180 SPPMVLPRTSPCDNFDCQNGAQCIVRINEPICQCLPGYQGEKCEKLVSVNFINKESYLQIPSAKVRPQTN::.:.:::::::::::::::::::::::::::: | 1190 1200 1250 1250 1240 1250 1250 1250 1250 1250 1250 ITLQIATDEDSGILLYKGDKDHIAVELYRGRVRASYDTGSHPASAIYSVETINDGNFHIVELLALDQSLS .: .: .: .: .: .: .: .: .: .: .: .: .: . | 1260 1270 1290 1300 1310 1320 Slit LSVDGGNPKIITNLSKQSTLNFDSPLYVGGMPGKSNVASLRQAPGQNGTSFHGCIRNLYINSELQDFQKV :: :: :: :: :: :: :: :: :: :: :: :: :: | 1330 1340 1350 1360 1370 1380 1390 PMQTGILPGCEPCHKKVCAHGTCQPSSQAGFTCECQEGWMGPLCDQRTNDPCLGNKCVHGTCLPINAFSY :::: NEAFDILLAFFFIL |
| 1140 AQCIVRINEPI .:. | 1210 OHIAVELYRGF :.:: | 1280 NFDSPLYVGGMP:.:. | 1350 3TCQPSSQAGE : |
| 1130 CDNFDCQNG2 | 1200 12 GILLYKGDKDHIAV ::. >LENTETENIT- | 1270 128 IITNLSKQSTLNFDSPL . :: ::: : -TLNLEKNSALPNDAA- 500 | 1340 БРСНККУСАН(|
| 1120 SPPMVLPRTSPC : | 1190 ITLQIATDEDSG .: TTNGSP- | 1260 LSVDGGNPKI] :: TSV | 1330 lit PMQTGILPGCE :::. 325 NEAFDILLA 530 |
| Slit 8 | Slit 325 | Slit L 325 T 490 | Slit 325 |

Fig. 5K

| Ø | 1 | | |
|--|--------------------------------|---|--|
| 1460 RGERIRDYY | : .::: RENRL-EYY- 570 | GCTRCVS | -LFEHSAL 620 |
| 1450 DSCDREISC | :. NS | 1520 DEVEKVVK(| .: : |
| 1440 YCECSSGYTG | | 1480 1490 1500 1510 1520 SRLECRGGCAGGQCCGPLRSKRRYSFECTDGSSFVDEVEKVVKCGCTRCVS | ! ! ! |
| 1430 SKCRLSGLGQE | .: . KLKA | 1500 SPLRSKRRKYS | :: GLEQIRLHK 600 |
| 1420 NPCQAIKCKHO | :: .: .: .: .: .: .: .: .: .:: | 1490 RGGCAGGQCC | NTSPNSLESPC 590 |
| 1410 TCDEEEDLFN | :: .: VLIIFI | 1480 'K-KVSRLECF | SSARYNVTASICN 580 |
| 1400 1410 1420 1430 1440 1450 1460 1460 SCKCLEGHGGVLCDEEEDLFNPCQAIKCKHGKCRLSGLGQPYCECSSGYTGDSCDREISCRGERIRDYYQ |) | 1470 Slit KQQGYAACQTTK-KV | 325SFYQSARYNVTASICNTSPNSLESPGLEQIRLHK580 600 |
| Slit | 325 AC- | Slit | 325 |

| 70 TATT | [] [| 140 CGGT | 210 GCGC | 1 | 280 ACCGC ::: ACC |
|--|---------------------|--|--|-----------------|------------------------------------|
| ATAT | | rgcg(| AGAT(| i | 3GCA(: |
| 60 TTCC | 1 | 130 GACAC | 200 GGGAA | | 270 AAGGT(|
| CTTG |] | 1 TCAG | 2 GCGG | | AACA. |
| CIGC | [| 2255 | 1 5 1 5 1 5 1 5 1 5 |] { | CCTG |
| 50 TCTA | | 120 ACTG | 190 AGGA(| | 260 CGAT |
| ລອອອ | ! ! ! | 2555 | AGGA | } | CTGG |
| 10 20 40 50 70 Slit cagagcagagagagagagagagagagagagagagagaga | | 80 130 140 120 140 140 120 130 140 Trgrgcacacacacacacacacacacacacacacacacaca | 150 160 170 180 190 200 210 TCCCTCGGAGCAGCAGCGGCGGGGAAAGATGCGC | 1 | 230 240 250 260 270 280 280 270::: |
| GCCI | | 1 1GCCC | 1 11GCC | 1 [] | SGGTI |
|) GGTG1 | | GCT? | CCAG | 1 | CTGC |
| 30 saggc | | 100 3GGTT | 170 170 | | 240 TGTCGC :::: -GTCG- |
| 3TGG(| | CTCTC | AGAAZ | : [] | |
| 20 3GCG(| i i | 90 3GCA(| 160 CTAA2 | ! ! ! | 230 GCTG |
| AGAG | ; ; ; ; | CCCI | CAAG(| ! ! ! | AGAT |
| O GTGG | i I I | 0 TTTT | O GCAG | | TGGC |
| 10 CAGGG |] } ! | 80 CACAT | 150 CGGAG | † | 220 TGGCT |
| AGAG | | TGTG | CCCT | | 220 GGCGTTGGCTGGCAGA |
| it C | 325 - | | Slit T | 325 - | slit G 325 - |
| \$1 | Μ | SI | SIS | m | S1 3 |

| 350 AGCGT | ::: CGT | 420 CGAAG | 490 TGAAA :. TA | 560 CTGTTTCC :::: |
|--|--------------------|---|--|--|
| TGCGC | | 'AATTA | ACCATTG::.:CCTTTA | AGCTG |
| 340 :GGCGC | | 410 ACAAG | 480 ATTAGC | 550 ACCTTC |
|) 3GGGC1 | :: 0.00 |) AACATC |) ataa <i>gp</i> : : aaaa | 40 GAAATCAC :::. -AATACG- 80 |
| 330 TGTCAC | :::: CACG 10 | 400 GAAATA | 470 TTATGGAGAATAA :::::: TTTAAAAAGAAAA | 540 TAAACAGA :::. : TAATA |
| :0 STGGAC | | 90 :AAATG | 460 AGCTTAT :::::. AGATTTA | 30 ::::. TTAAT- |
| 320 GCACAGT | | 390 GGATTTA | 460 470 GTTCTTCAGCTTATGGAGAATAA :::::::::::::::::::::::::: | 530 GACTGCG: G |
| 310 CGGGCA | | 380 GAGACT | 450 AGAGTT | 520 AACTAGAGAGA :.:: :::: AGCT-GAGTG- |
| 3 PTGCTC | | 3 ACCGAG | ATCTAA | 52 AGAACTI |
| 300 TGCTC | ; | 370 :GCAAC | 440 TAGAC? | 510 CTTAAA : |
| SCGCAG | | | GGTCT | 0 TCCAGGATCT :::::: CTGAATC- 60 |
| 290 3CCCG | 1 2 1 1 | 360 ccaggaarar :::::::: ccggaaargr | 430 TTTGC1 | 500 CATTC(|
| 290 340 310 320 320 340 350 AGGCGTGCCCGCCAGTGCTCTCACGGCTGCCTGCGCTGCCAGCGTGCAGCGT | | 360 370 380 400 400 420 GCCCAGGAATATCCCCCGCAACACCGAGACTGGATTTAAATGGAAATAACATCACAAGAATTACGAAG :::::::::::::: | 430 450 460 470 490 490 80 490 80 490 80 80 80 80 80 80 80 80 80 80 80 80 80 | 500 510 520 530 540 550 560 GAGGAGCATTCCAGGATCTTAAAGAACTAGAGAGACTGCGTTTAAACAGAAATCACCTTCAGCTGTTTTCC ::::::::::::::::::::::::::::: |
| Slit A | 325 - | slit o | Slit <i>I</i> 325 - | Slit (|

Fig. 5Mii

| 630 SCAATC | 700 3CTGTA ::. GTT | 770 ACTAG | 840 TGTAT :: AT 200 |
|--|--|--|---|
| 580 620 630 630 630 630 630 630 630 630 630 63 | 690 AACCAGATCAC : .A | 720 730 740 750 760 770 AGGGCTCTCCGGGACCTGGAAGTGCTCACTCTCAACAATAACAACATTACTAG :::: ::: :::CTCTGCCTTGCCTACGA | 790 830 840 TCAACCATATGCCTAAACTTAGGACTTTTCGACTGCATTCAAACAACCTGTAT .:::. GTTACCTGTTA——————TCTTTT————————————————— |
| 610 CTCAGTGAAAA .::. :::. -ACAGA-AAAT | 680 AACTGGATTACA ::::::: TGGATTACA 140 | 750 CACTCTCAACAAT ::::: CTACGA- 170 | 820 TTTCGACTGCA ::: TTT |
| 600 .caggcrrgar Crga | 670 AAAAATTTGC .:.: :: -GATATGTG- | 740 TGGAAGTGCT : :: TTGC | 810 ACTTAGGACTTT .::: |
| 0 590 6 ACTGCGAAGCTATACAGGC : ::: ::: .:: | 660 AGTTGACATA | 730 CTCCGGGACCTG :: .:: CTGCCT- | 800 CATATGCCTAA : .:. CTGTTA |
| 580 TTTCTTGGGACTG :::::::: TTTCTTGC | 650 TCCGTGGGGC | 720 ATTCAGGGCTCTC :::: | 790 80 CAAGTTTCAACCATATGC ::: .:: .:. CTGGTTGTTACCTGTTA- 180 190 |
| 570 Slit TGAGTTGCTGTTTCTTG : ::::: 325 TTTTCTTG | 640 650 700 Slit CCAAGGAAAGCTTTCCGTGGGCAGTTGACATAAAAATTTGCAACTGGATTACAACCAGATCAGCTGTA ::::::::::::::::::::::::::::::::::: | 710 TTGAAGATGGGGCATTC:: TT | 780 ACTTTCTGTGGCAAGTT::::::::::::::::::::::: |
| Slit 325 | Slit 325 | slit 325 | slit 325 |

Fig. 5Miii

Fig. 5Miv

| 1140 1150 1160 1170 1180 1190 SATCAAAGTCATCCTCGGAGCTTTCTCACCATATAAAAAGCTTAGACGAAT ::::::::::::::::::::::::::::::::::: | 1210 1220 1230 1240 1250 1260 'CAGATCTCTGAACTTGCACGATGCTTTCCAAGGACTACGCTCTCTGAATTCA ::::::::::::::::::::::::::::::::: | 1280 1290 1300 1310 1320 1330 ATAAAATCACAGAACTCCCCAAAAGTTTATTTGAAGGACTGTTTTCCTTACAGC :::::::::::::::::::::::::::::::::: | 1340 1350 1360 1370 1380 1390 1400 TCCTATTATTGAATGCCAACAAGATAAACTGCCTTCGGGTAGATGCTTTTCAGGATCTCCACAACTTGAA : :::::::::::::::::::::::::::::::::: |
|---|---|---|---|
| 1170 TTTCTCACCA:::: | 1240 CTTTCCAAGGA :::: AGGA | 0 1310 AGTTTATTTGAA : ::::::: ATTGTATTTGGA 400 | 1380 SATGCTTTTCAGG : :.:: ::: TTCAATTGAGG- |
| 1160 ::::.:: CTGGGAAT | 1230 scaccagarg | 1300 CCCCAAAAGT | 0 1370 16CCTTCGGGTAC :::::: |
| 1150 AGTCATCCC1 | 1220 TCTGAACTTG | 1290 TCACAGAACT ::: AGC- | 1360 GATAAACTGC :: |
| 1140 ACACAATCAA | 1210 TAATCAGATC | 1280 3GAAATAAAA | 1350 ATGCCAACAA:::::: |
| 1130 Slit GTTTGGAACAGAACAC ::::: 325TGTATCTGA | 1200 Slit TGACCTGAGCAATAAT :.:: 325 TAAC | 1270 Slit CTTGTCCTCTATGGAA ::::: 325 CTTGT | 1340 Slit TCCTATTATTGAATGC : :::::: TTCTGTATGTATAT-C |

Fig. 5Mv

| 1470 GGCCATT : | 1540 GATTATCTCC:::: | 1610 AAAGAATTGG: ATTTATATTT 550 | 1680 AGATTAT |
|---|--|--|---|
| 1460 CACCTCTTCG:: | 1530 GGCTAGCGGAT :::: GACTTTTA | 1600 GCAAACAAAA : | 1670 :caggtacaga |
| 1420 1430 1440 1450 1460 1470 GACAACAAGGCCATCGCCAAGGGGACCTTTTCACCTCTTCGGGCCATT :::: AATAA | 1520 15 CATCTCAAGTGGCTAG :::::: | 1560 1570 1580 1590 1600 1610 GACCAGTGCTGCCCCCCCCCCCCCCCCCCCCCTGCCAAAAAAATTGC :.:::: | 1660 AGTATTTCATTC ::::::: AGTATTTAAT |
| 1440 CCATCGCCAA | 1510 TTGTGACTGC:: | 1580 TGCACCAGCC | 1640 1650 TCCGTTGTTCAGCTAAAGAACA ::::::::::::::::::::::::::::::: |
| 1430 AGCTTCAGA | 1500 CCCTTTATT: .::: | 1570 3GTGCCCGT | 1640 STTGTTCAG ::::: FTTGTTC |
| 1420 TATGACAACAA .::: :: AATAATAA0 | 1490 TGGCCCAGAAC .:.:::: AGATCCTGGA- 510 | 1560 TGAGACCAGTC | 1630 AAGAAATTCCG :.::: AGGTATCTT |
| 1410 CCTTCTCTCCCTATAT :::::::::::: T-TTCTATTTCTAAAT 470 480 | 1480 1490 1500 1510 1520 1530 1540 CAAACTATGCATTTGGCCCAGAACCCCTTTATTTGTGACTGCCATCTCCAAGTGGCTAGCGGATTATCTCC :::::::::::::::::::::::::::::: | 1550 lit ATACCAACCCGATTGA .:: 325 GTA | 1620 1630 1640 1650 1660 1670 1680 Slit ACAGATCAAAAGCAAGAAATTCCGTTGTTCAGCTAAAGAACAGTATTTCATTCCAGGTACAGAAGATTAT ::::::::::::::::::::::::::::: |
| Slit 325 | Slit 325 | Slit 325 | Slit 325 |

Fig. 5Mvi

| 1750 GGAACCA | 1820 AGTTGCG | 1890 ACGTAAA | 1960 GTAAATG |
|---|---|---|---|
| 1740 TCGCTGTGAA | 1810 TACACTGCAG ::::: CACTG 640 | 1880 TTCCTCAATT :.::: TACCT | 1950 AGCATCTGGT :.::: CTTCGG |
| 1730 CTGAAAAGTG | 1800 CATTCCCCAG :: ::- | 1870 ITTAAGAAAC' | 1940 CATTTGAAGG |
| 1720 TCTGGCTTGCC:::: TCAG | 1790 ICCCGGAGCA(:::. GGAA | 1860 CACAGGAATC: .:: | 20 1930 ATATTGAGGAGGAGCA :::::::::::::::::::::::::::: |
| 700 1710 1720 1730 1740 1750 AGACTGCTTTGCGGATCTGCCTTGAAAGTGTCGCTGTGAAGGAACCA ::::::CAGTTCAG | 1780 CTCAACAAAA: :::: CAAA | 1850 IGTIGGAAGCC :::::: TIGGGAG | 1920 CACAGATATTG:::: |
| 1700 GTGGAGACTG | 1770 TAATCAAAAG(.:::: AAATCTA | 1840 SAATTTACCG3 .:: TCC | 1910 ACAATAAGATO |
| 1690 1 Slit CGATCAAAATTAAGTGG ::::::::: 325 -GATCTAGTTT | 1760 1770 1780 1790 1800 1810 1820 Slit CAGTAGATTGCTCTAATCAAAAATCCCGGAGCACTTCCCCAGTACACTGCAGAGTTGCG ::::::::::::::::::::::::::::::::: | 1830 1840 1860 1870 1890 1890 TCTCAATAATAATGAATTTTACCGTGTTGGAAGCCACAGGAATCTTTAAGAAACTTCCTCAATTACGTAAA ::::::::::::::::::::::::::::::::: | 1900 1950 1960 ATAAACTTTAGCAACAATAAAGATCACAGATATTGAGGGGGGGG |
| Slit 325 | Slit 325 | Slit 325 | Slit 325 |

Fig. 5Mvii

| 2030 GCCTCAA : | 2100 FTCTGTG | 2170 CATTCTT | 2240 AGTGGCT : |
|--|--|---|--|
| 2020 3GATTGGAAA0 | 2090 FAGGACTCAG | 2160 rgatactctc | 2230 3GCTTGGTTGGGAG; :::::::: |
| 2010 GATGTTCAAG | 2080 TGACAGTTTCA:::: ::::::::::::::::::::::::::::::: | 2150 CAGGGGCATT | 2220 CTACCTGGCTT ::: |
| 2000 TGCAGCATAA | 2060 2070 2080 AATAACCTGTGTGGGGAATGACAGTTTCATA :::::::::::::::::::::::::::::::: | 2140 ACAGTTGCAC | 2210 ACTGTAACTG |
| 1990 TTGGAAAATG | 2060 GAATAACCIG ::::: | 2120 2130 2140 2150 2160 2170 ATGATAATCAAATTACTACAGTTGCACCAGGGGCATTTGATACTCTCCATTCTT | 2200 AATCCTTTTA :::::: AAACCTT |
| 1980 ACGAGTAATCGT :::::: GATTTATC 690 | 2050 SAGAAGCAATC | 2120 TTGTATGATAA | 2190 2200 AAACCTCTTGGCCAATCCTTT ::::::::::::::::::::::::::::: |
| 1970 1980 2000 2010 2020 2030 AAATACTTCTTACGAGTAATCGTTGGAAAATGTGCAGCATAAGATGTTCAAGGGATTGGAAAGCCTCAA ::::: :::: ::::ATACTTGATTTATC | 2040 2050 2060 2070 2080 2100 Slit AACTITGATGTTGAGAATGACATAACCTGTGTGGGGAATGACAGTTTCATAGGACTCAGTTCTGTG ::: 325 AACAATAAC-ATTTTGAGGATATCAGAATCAG | 2110 CGTTTGCTTTCTTTGT ::::: GCTTTC | 2180 2230 2240 TATCTACTCTTAAACCTCTTTTAACTGTAACTGCTACCTGGCTTGGTTGG |
| S11t 325 | Slit 325 | Slit 325 | slit 325 |

Fig. 5Mviii

| 2300 2310 CTGAAAGAAATACCCATC ::::::: GAAGTAC | 2370 2380 STTGCTCCCACTTTCTC : ::: CTTTGTCTC | 2440 2450 GGTTTGAAGGTCTTGCC ::::::::::::::::::::::::::::::::::: | 2510 2520 ACACTGGTTCCCAAGGAA ::: | |
|---|--|--|--|-----------|
| 2260 2300 2310 GTCACGGGAAATCCTAGATGTCAAAAACCATACTTCCTGAAAGAAA | 2340 2350 2360 TTGTGATGACGGAAATGATGACAATA(.:.::.: AGAAGACTTT | 2410 2420 2430 GATACAGTCGTCCGATGTAGCAACAA(:::::::::::::::::::::::::::::::: | 2480 2490 2500 AGTIGIAICIGGAIGGAAACCAAITI ::::: ::::ICIGGAAIACC | Fig. 5Mix |
| 2250 2260 2270 Slit GAGAAAGAGAATTGTCACGGGAAATCCT :::::::::::::::::::::::::::::::: | 2320 2330 2380 2380 2380 2380 2370 2380 Slit CAGGATGTGGCCATTCACTTGTGATGACGAAATGATGACAATAGTTGCTCCCCACTTTCTC ::::::::::::::::::::::::: | 2390 2400 2420 2430 2440 2450 Slit GCTGTCCTACTGAATGTACTTGCTTGGATACGATCGTCGGATGTAGCAACAAGGGTTTGAAGGTCTTGCC ::::::::::::::::::::::::::::::::: | 2460 2470 2490 2500 2510 2520 Slit GAAAGGTATTCCACAGAGTTGTATCTGGATGGAAACCAATTTACACTGGTTCCCAAGGAA :::::::::::::::::::::::::::::: | |

| 2590 TCTAATCAGA : ::: :. TTTAGTGG | 2660 CTCCTCG | 2730 TGCCTGAA :.::::: TACCTTAA 1050 | 90 2800 ACTGTGATTGTA : ::::. GATAATGAT |
|--|---|---|---|
| 2580 ACGCTTTCT : : TTT | 2650 AGATGTATTC ::: TAATGA | 2720 TTCTGTTGT : :.::: TTAATTT 1040 | 2790 CTTTACTGT |
| 2550 2560 2570 TTATAGACTTAAGTAACAACAGAATAAGC ::: ::::::::::::::::::::::::::::::: | 2610 2620 2630 2640 2650 2660 CCAGCTCCTCACCTTAATTCTTAGTTACAACCGTCTGAGATGTATTCCTCCTCG :::::. ::: | 2690 2700 2710 2720 2730 2730 2730 2730 2730 2730 273 | 2780 GAGCCAACCCT |
| 2560 TTAAGTAAC? ::::::- | 2620 2630 ACCTTAATTCTTAGTTA :::::::: ACATTTGATCTTAA | 2700 FTCTCTACAT ::::::: | 2770 CTAGCAATTG ::::: |
| 2550 ACTTATAGAC' ::: TTAGGA | 2620 TCACCTTAA? :::::- | 2690 27 "TCGATTACTTTCTC:::.:: | 2760 CATTATCACATC :::: AATAAT |
| 2540 ACATTTAACA .::: TCAAGAA 920 | 2610 ACCCAGCTCC : A | 2680 TAAAGTCTCT :.::: TTAAAT 1010 | 2750 276 TCTTTCTGCATTATC : :::: AACAGAATAAT- 1070 |
| 2530 CTCTCCAACTACAA ::::: TCCTGAAAAT 910 | 2600 GCTTCAGCAACATGAC .:::::::: AATTAATAATCTTAA- 960 970 | 2670 2680 2730 2730 2730 2730 2730 2730 2730 273 | 2740 2750 2760 2770 2780 2790 2800 GGTGCTTTCAATGATCTGCATTCACATTGGAGCCAACCCTCTTTACTGGATTGTA :::::::::::::::::::::::::::::: |
| Slit 325 | Slit 325 | Slit 325 | Slit 325 |

Fig. 5Mx

| 2870 STGGTCC :::: GATCC 1120 | 2940 GTGGAT | 3010 AATAGTG : | 3080 CAATTCA ::::: |
|--|---|--|---|
| 2860 2870 SCTCGTTGTGCTGGTCC ::::::::::::::::::::::::::::::::::: | 2930 GTCAAGGTCC:::: GTCAT | 3000 rgccacargr | 3070 rgrgargrcco |
| 2850 .GCCTGGAATTC ::: .GCAT | 2920 2930 AAATTTACCTGTCAA(::::::::::::::::::::::::::::::::::: | 2990 STAAAAATGA: : 3 | 3060 3GGGCAGGACI : |
| 0 2840 2 TCGGAATATAAGGAGCCT : :::::::::::::::::::::::::::::::::: | 2910 cccrccaaa | 970 2980 TGCCTATCAAATCCGTG::::::::::::::::::::::: | 3050 ATGGTTTCAAGGG ::::: |
| 2810 2850 2870 Slit ACATGCAGTGGTTATCCGACTGGGTGAAGTCGGAATATAAGGAGCCTGGAATTGCTCGTTGTGCTGGTCC :::: ::::::::::::::::::::::::::::::: | 2880 2890 2910 2920 2930 2940 Slit TGGAGAAATGGCAGATAAACTTTTACTCACAACTCCCTCC | 2950 3000 3010 GTCAATATTCTAGCTAAGTGTTAACCCCTGCCTATCAAATCGTGATGGCACATGTAATAGTG : :::::::::::::::::::::::::::::::::: | 3020 3030 3040 3050 3060 3070 3080 ATCCAGTTGACTTTTACCGATGCACCTGTCCATATGGTTTCAAGGGGGCAGGACTGTGATGTCCCAATTCA :::: :::::::::::::::::::::::::::::::: |
| 2820 MTCCGACTGGC | 2890 3ATAAACTTTT | 2960 STAAGIGIAAC | 3030 ACTTTTACCGATGC/ ::::- |
| 2810 3CAGTGGTTA | 2880 3AAATGGCAG | 2950 GTCAATATTCTAGCTAA : :::::::-: | 3020 AGTTGACTTT ::TTA |
| Slit ACAT(:::: 325 ACAT- 1090 | Slit TGGA(: 325 T | Slit GTCAN :: 325 -TTAN | Slit ATCCA .::: 325 GTCC- |
| | | | |

Fig. 5Mxi

| 3150 .TGGATTC :: :: TGCAAAC 1230 | 3220 AATG : G | 3290 ATAC | 3360 AAAG |
|---|---|--|---|
| 3140 3150 AGGAGAAGATGGATTC ::.:::::::-:: -GGGAATGTAACTGCAAAC 1220 1230 | 3170 3180 3190 3200 3210 3220 ATGGATTTGAAGAAAATTGTGAAGTCAACGTTGATGATTGTGAAGATAATG:::::-: | 3280 CCACCTGAGT | 3310 3320 3330 3340 3350 3360 GAGAAGCTGGACTTCTGTGCCCAGGACCTGACCCCTGCCAGCACGATTCAAAG ::.:::::::::::::::::::::::::::::::: |
| 3130 CTTAAAGGAAG ::: | 3200 STCAACGITGA :::. | 3270 CTACACATGCCTTTGC ::.:: ::::: CTTCAGCCATTAC 1270 | 0 GGACCTGAACCCCT ::: :::: -GTCAGAATCCCC- |
| 3120 AACTTGCCACTT ::.::::: CTAATC-CTT 1210 | 3190 AATTGTGAA(| 3260 TAATAACT?:: | 3330 GCCCAGGAC::: TGTC: |
| 3110 ACATGGAGG/ | 3180 GAAGGAGAAA | 3250 TCGATGGCAT' ::::: TAGCAT' 1260 | 3320 GCTGGACTTCTGTG ::.::::: TCTAAACATCTATT 1280 |
| 3100 ACCCATGTAA ::.:: | | | 3310 GGAGAAGCTG:: |
| 3090 3140 3150 3150 3150 3140 3150 3140 3150 3140 3150 3140 3150 3150 3140 3150 3150 3150 3150 3150 3150 3150 315 | 3160 : TGGTGTATTTGTGCTG : ::: :: : TTTTGGGC | 3230 Slit ACTGTGAAAATAATTC :::: 325 ACTG1250 | 3300 AGGTGAGTTGTGTGAG |
| Slit 325 | slit 325 | Slit 325 | Slit 325 |

1290 **Fig. 5Mxii**

| 3430 GACATCG | 3500 GCTATAC ::: ATAA 1360 | 3570 CTCGTACC : : : : .CAAGAC | 0 3640 GCCAATATGTC::: |
|--|--|---|---|
| 3420 GAACACTGC | 3490 scagigaacg | 3560 ATGGTCCTCCCT :: :: :: ATATTCATCACA 00 | 3630 AAATGAGCCA :: CA |
| 3410 GGGTACGTAGG: ::::. TTACGTT320 | 3450 3460 3470 3480 3490 3500 AGACAACAAGTGTAAAAACGGAGCCCACTGCACAGATGCAGTGAACGGCTATAC .:::::::::::::::::::::::::::::::::: | 3540 3550 3560 357 TGAGTTTTCTCCACCCATGGTCCTCCCTCGTAC :::::::::::::::::::::::::::::::::: | 3590 3600 3610 3620 3630 3640 TTGATTGTCAGAATGGAGCTCAGTATCGTCAGAATAAATGAGCCAATATGTC ::::::::::::::::::::::::::::::::::: |
| 3400 3TGACTGCACACCAGGG :::::::::::::::::::::::::::::::::: | 3470 34 ACGGAGCCCACTGCA : :: :: :: | 3540 CTGTGAGTTT' : 1390 | 3610 3620 AGCTCAGTGTATCGTCAGA :: :::::::: |
| 3390 340 CAAATGTGACTGCACA :::::::::::::::::::::::::::::::::: | 3450 3460 AGACAACAAGTGTAAAAAAAAAAAAAAAAAAAAAAAAAA | 3530 CAGTGGCTTGTT(: ::: ::: CTTGGGCT-GTT- 1380 | 3600 GTCAGAATGGA(: :: GCCTG(|
| 3380 %AAAGGGATT(| 3450 CCAAGACAAC : ::: ATTACAAA' 1340 | 3520 CCGAAGGTTACA(::: CCAGAGCT' | 3590 36 ATTTTGATTGTCAGA :: ::: ::: ATGATGGCCTG- 1430 |
| 3370 3380 3400 3410 3420 3430 Slit TGCATCCTAACTCCAAAGGGATTCAAATGTGACTGCACACCAGGGTACGTGGAACACTGCGACATCG :::::::::::::::::::::::::::::::::::: | 3440 Slit ATTTTGACGACTGCCA :::::::::325 ATATTAACA 1330 | 3510 3520 3540 3550 3570 Slit GTGCATATGCCCCGAAGGTTACAGTGGTTTTCTTCTCCACCCATGGTCCTCCCTC | 3580 slit AGCCCCTGTGATAATT .:: :::: 325 TACTGCGCTAAT- 1420 |

Fig. 5Mxiii

| 3650 3660 3710 3680 3690 3700 3710 Slit AGTGTTTGCCTGGCTATCAGGGAGAAAAGTGTGAAAAATTGGTTAGTGTGAATTTTATAAACAAAGAGTC ::: :: :: :: :: :: :: :: :: :: :: :: :: | 3720 3730 3740 3750 3760 3770 3780 TTATCTTCAGATTCCTTCAGCCAAGGTTCGGCCTCAGACGATAACACTTCAGATTGCCACAGATGAA :.::::::::::::::::::::::::::::::::: | 3790 3810 3820 3830 3840 3850 GACAGCGGAATCCTCTGTATAAGGGTGACAAAGACCATATCGCGGTAGAACTCTATCGGGGGCGTGTTC ::::::::::::::::::::::::: | 60 3870 3880 3890 3900 3910 3920 TATGACACCGGCTCTCATCTGCCATTTACAGTGTGGAGACAATCAAT |
|--|--|---|---|
| 3650 ::: ::: 325 AGTCCT- | 3720 Slit TTATCTTCAGAT 325CGAAT | 3790 Slit GACAGCGGAATC 325 | 3860 Slit GTGCCAGCTATGACAC :.:: 325 AA-CTTACTA |
| - - | •• | ~ . | 5 2 |

Fig. 5Mxiv

| 3990 CCCAAA | 4060 TGCCAG | 4130 carccg | 4200 ccTGGC |
|--|---|--|--|
| 3980 ATGGTGGGAAC .:::: | 4050 TGTAGGAGGCA | 4120 TTCCACGGCTG :: TT | 4190 AAACAGGCATTTTG ::::: TTTTAATCATTTT- |
| 3970 TCTTTGTCCGTGG :.::: -CAATGTC | 4040 STCCACTCTA | 4110 GGAACCAGCTT : :::: GCTAGCTT 1730 | 4180 CGATGCAAA |
| 3960 AGTCTCTCTTT:::: | 4030 ATTTTGACTC : ::: AAGTTGA | 4100 TGGGCAGAACGG::::::: | 4170 CAGAAGGTGC ::: GTG- |
| 3950 CTTGGATCAG | 4020 4030 TCCACTCTGAATTTTGA ::::::::::::::::::::::::::::: | 4090 GCCAGGCCCC | 4160 GCAGGACTIC |
| 3940 GGAACTACTTGC ::::: GATGCTGCTT | 4010 GTCAAAGCAG :: GT | 4080 GCATCTCTGC :::: GCTT | 4150 ACAGTGAGCTG ::::: |
| 3930 3940 3950 3960 3970 3980 3990 Slit CTTCCACATTGTGGAACTACTTGGATCAGAGTCTCTTTTGTCCGTGGATGGTGGAACCCCAAA ::::: :::: ::::::::::::::::::: | 4000 4010 4020 4030 4040 4050 4060 lit ATCATCACTAGCTGTCCACTCTGAATTTTTGACTCTCCACTCTATGTAGGAGGCATGCCAG :::::::::::::::::::::::::::::::::: | 4070 4080 4090 4100 4110 4120 4130 Slit GGAAGAGTAACGTGGCCATCTCTGCGCCAGGCCCCTGGGCAGCAACCAGCTTCCACGGCTGCATCCG :::: ::::::::::::::::::::::::::::::: | 4140 GAACCTTTACATCA :::::::TTTTCATC- |
| S | Slit 325 167 | S1. | slit 325 |

Fig. 5Mxv

| , | | | |
|--|---|---|--|
| 4270 TTCACCT:: | 30 4340 CCTTGGAAATAA ::::::-:- -CAAGGGAAAAT 820 | 4410 GCCATGGA :::: ATGTA 1870 | 4480 GGGAAGT .:.:: AGAAAGT |
| 4260 CCAGGCAGGCTT :::::. | 4330 CTTGCCTTG :.: | 4400 GCTTGGAGGG | 460 4470 4480 GATCAAGTGCAAGCACGGGAAGT :::::::: |
| 4250 GCCCAGCAGC | 4320 accaatgacc | 4390 ACAGCTGTAAGTG .::: TCAGCAAGGTATA | 4460 GGCGATCAAG :::- CAAA |
| 4240 GGCACATGCCA | 00 4310 CCTCTGTGACCAACGG : ::.:.: :. CATCAGAAAACT | 4380 4390 STTCTCCTACAGCTGTAAGTG::::::-: | 4450 TTAACCCATGCCA:::: -:::::::::: |
| 4230 TGTGTGCCCAT(::: TGTT | 4300 GGGCCCTCTC : ::- | 4370 CCATCAATGCGT : T | 4440 GGATCTGTTTA :: TA |
| 4220 ACAAGAAGGTGTG .:::::: AAAGTTGTT 1780 | 4290 AAGGATGGATG::::: | 4360 ACCTGCTTGC ::::: TACAGCTT | 4430 ATGAAGAGGA(::: TTG |
| 4210 4220 4230 4240 4250 4260 4270 t TGTGAGCCATGCCACGCCAGCCAGCCAGGCAGCCTTCACCT : ::: ::: ::: ::: ::: ::: ::: ::: ::: | 4280 GCGAGTGCCAGG .:.:.:: ACAAAAACTA | 4350 4360 4370 4380 4390 4400 4410 Slit ATGCGTACATGCCTTGCCCATCAATGCGTTCTCCTACAGCTGTAAGTGCTTGGAGGGCCATGGA : :: :: :: :: :: :: :: :: :: :: :: :: : | 4420 4430 4440 4450 4460 4470 4480 t GGTGTCCTCTGTGAAGAGGAGGATCTGTTTAACCCATGCCAGGCGATCAAGTGCAAGCACGGGAAGT .:::::::::::::::::::::::::::::::::::: |
| Slit 325 | Slit 325 | Slit 325 183 | Slit 325 |

Fig. 5Mxvi

| 4550 TGATCG :.:.: TAAACA | 4620 CCAA : | 4690 CTGA : C | 4760 AAGT |
|--|--|--|---|
| CTGTG :- :- CA-TA | CTTG ::: TTTG | ACCG: | GAGAI :.: TAAA |
| 4540 4550 GGACAGCTGTGATCG :::::::-: | 4610 ATGCTG :: :: ATTCTT 1980 | 4680 TGCTGTGGACCGC':::::::::::::::::::::::::::::::: | 750 AGGTT(.:.:: TGATT/ 2050 |
| 45 36662 :: 62 | 46 CTAT : :: C-AT | 46 TGCT::::TGCT | 4750 TGGACGAGGTTGAGA ::::::::::: TGGACATGATTTAAA 2050 |
| (ACGG | 0 CAGGG :::: CAGGI | GCAG | GTGG :::- |
| 4530 3ATAC: :::: | 4600 4610 AGCAGCAGATATGCTGCTTG :::::::::::::::::::::::::::::: | 4670 3GAGG | 4740 CTTT |
| AGTG(| AAAA(| rgcac | 4730 GACGGCTCCTC .::::::- -TCAGTGCCA- 2040 |
| 4520 GCAGC | 4590 TTACC | 4660 GGGTG: | 4730 ACGGC: .:: TCAGTC |
| 4 AATG: | 4 TTAT. | 4 GGTG | 4 CTGA(|
| 4500 4510 4520 4530 4540 4550 GGGGCAGCCCTACTGTGAATGCAGCAGTGGATACACGGGGGACAGCTGTGATCG ::::: GGAGCAGATTCGACTTCA-TAAACA 1930 | 4570 4580 4590 4600 4610 4620 GGGGAAAGGATAAGAGTTATTACCAAAAGCAGCAGGGCTATGCTTGCCAA .:.:::::::::::::::::::::::::::::::: | 4640 4650 4660 4670 4680 4690 CCCGATTAGAGTGCAGGGTGTGTGCAGGGGCAGTGCTGTGGACCGCTGA :::::::::::::::::::::::::::::::::::: | 4710 4720 GAAATACTCTTTCGAATGCAC ::::::::-::: |
| 4510 CCTACT | 4580 AAGGATAAGAG; .:.::: -TGAAAATGAG: 1960 | 4650 SAGTGC | 4720 TCTTTCGAATGCA ::::: .::.: TCTATAAGAAACT |
| CAGC(::: CAG | .:. TGA | ATTA(| FCTTT:::: |
| 4500 GGGGCAG ::::: GGAGCAG 1930 | 4570 | 4640 CCCG | 4710 ATACTC ::. :: ATTGTC |
| GTCT | TCGA:-C | GTGT | GGAA :- AT |
| 4490 GCAGGCTTTCAGGTCT ::::: CCTGGCTT | 4560 CTCTTG :: -TC | 4630 ACAACCAAGAAGGTGT :::: ACATTC | 4700 AGCGGC : |
| 44 GCAGGCTT ::::: CCTGGCTT 1920 | 4560 AGAAATCTCT :: :: AATTGT-TC- 50 | 46 4CCAP : : | 4700 GGAGCAAGCG ::::- AACTAA |
| GCAG:::: CCTG | t AGA/ : 5 AATI 1950 | 4 ACAACCA :::.: ACATIC- 1990 | GGAC :- A <i>F</i> |
| Slit 325 | 4560 Slit AGAAATCTCTTGTCGA :: :: : 325 AATTGT-TCC | Slit 325 1 | 4700 4710 4720 4730 4740 4750 4760 Slit GGAGCAAGCGGCGAAATACTCTTTCGAATGCACTGACGGCTCCTTTGTGGACGAGGTTGAGAAAGT ::::::::::::::::::::::::: |
| | | | |

Fig. 5Mxvii

| 4830 AAAGGTTG | :.:: ATATAATTA 70 | 4900 'AAAATAC .:: 'TAA | |
|--|--|---|--|
| 4820 TGTCTTTGGAA | ::: :::::::::::::::::::::::::::::::::: | 4890 AAATATATTGT ::::::::: | |
| 4810 CCGCCAGCTC | i | 4870 4880 48 TTCATAGTGGAAATATTTGAAATA : : : . : : : : : : : : : : : | 4950 :GCATTTG :: |
| 4800 AAACACACTCO | :::: ::: AAACCTC- 2060 | 4870 CTTCATAGTGC :: . | 910 4920 4930 4940 ACTTATTTTTTTGAGAATAAAGACTTTTTTTCTGCA :::.::::::::::::::::::::::::::::::: |
| 4790 TGTGTGTCCT | :: AAA 2060 | 4860 CTAATGAATG :::::: ATAATGAATT | 4920 TATTATGAGAATAAAGAC .:.:::::::::::::::::::::::::::::::::: |
| 4780 CTGTACGAGG | ::: CTG | 4850 CCATGTGGGAC :: TGGAAATP 2090 | 4920 TTTTTATTAT AAAAAAAAA |
| 4770 4780 4790 4800 4810 4820 4830 81it GGTGAAGTGCGGGGGGGGGGGGTGTGTGGAAAAGGTTG | 325 | 4840 4850 4860 4870 4880 4890 4900 Slit TATACTTCTTGACCATGTGGGACTAATGAATGCTTCATAGTGGAAATATTTGAAATATTGTAAAATAC ::::::::::::::::::::::::::::::: | 4910 4920 4930 4940 4950 Slit AGAACAGACTTATTTTTTATGAGAATAAAGACTTTTTTTCTGCATTTG :::::::::::::::::::::::::::::::::: |
| S | | Ω. | SO , |

Fig. 5Mxviii

| | | | 1 | | | | |
|----------------------------------|---------------------------------|-------------|------------------|------------------|---------------|-------------------------|----------------|
| 79 | 11 146 | 31 206 | 51 266 | 71 326 | 79 / 109 F | 111 446 | 131 |
| rgga | CIC | C TGC | K AAG | S AGC | N AAT | E GAA | G GGA |
| SACCT | 9 | CCC | K AAG | S | C TGC | S AGC | P CCA |
| CGCAGGAC | L CTG (| T ACG | A GCA | E GAG | E GAA | K AAG | S TCT |
| 2255 | A GCG (| P | T ACC | Y TAC | F | L | C TGC |
| (7) | A GCC (| K AAG | D GAC | K AAG | D GAC | Q CAG | C TGC |
| CGGGTGGGCGGGGGGCCGGAGCAGCA | R CGG (| K AAG | V GTG | S TCC | S AGC | CIG | V GTG |
| 75522 | CGC (| A GCC | M ATG | L CIG | S AGC | W TGG | K AAA |
| 3AGG(| P CCG (| A GCC | 999 | T ACG | E GAG | $\overline{\mathbb{M}}$ | L |
| | L CTG (| E GAG | Q CAG | K AAG | C TGC | A GCC | T ACA |
| 30.GG | CGC C | P CCG | N AAC | E GAA | CIG | E GAG | K AAG |
| 3TGG(| M ATG (| A GCG | H H H H | E GAG | G GGG | L | V GTG |
| r h | S S | P | K AAG | W TGG | E | H CAC | C TGT |
| 3GGA(| ACCC | PCCG | D GAC | A GCT | CIG | E GAG | F TTT |
| 3GCT(| CGCT | CIG | V GTG | T ACG | I ATC | E GAG | \overline{W} |
| 300C | 3CAG(| L | L | N AAC | E GAG | Q CAG | E GAG |
| 300B | ICCC | $_{ m CTG}$ | G GGG | G GGG | CIG | A GCG | F |
| CANG | GTCT | L | CGG | G GG | CIG | E GAG | L TTA |
| 3GCA(| CTGC | L | C | GGC | R CGC | L CTA | D GAC |
| ACGCGTCCGCACANGGCCGGCGCGGCTGGGA(| GCTCCGGCTGCGTCTTCCCGCAGCGCTACCC | P CCG | R | H T T T | I ATT | M ATG | P |
| ACG(| GCT | L CIG | H CAC | N AAC | E GAG | Q CAG | Y TAT |
| | | | | | | | |

Fig. 6A

| | | | | 80 | / 109 | | |
|----------|----------|------------------|-----------------------|-----------------|----------|----------|--------------------------------|
| 151 | 171 | 191 | 211 | 231 | 251 | 271 | 291 |
| 566 | 626 | 686 | 746 | | 866 | 926 | 986 |
| N | | E | N | V | N | P | V |
| AAT | GGG | GAG | AAC | GTG | AAC | CCA | GTG |
| GGG | M | N | T | D | A | | D |
| | ATG | AAC | ACC | GAT | GCC | GGC | GAT |
| S | H | R | L | V | N | EGAA | A |
| AGC | CAC | CGG | CIG | GTG | AAC | | GCA |
| C Hec | C TGC | CIC | G GGC | $^{\mathrm{C}}$ | K AAG | GGG | $_{\rm TGT}^{\rm C}$ |
| CCC | R CGG | S TCG | ა പ ე | A GCC | C HGH | T ACA | Q CAG |
| R | C | S | C | G | TIC | C | G |
| AGG | TGC | AGC | AGC | GGC | | HCC | GGA |
| Q CAG | S TCC | H H H C | T ACG | E GAG | Q CAG | G GGC | H CAC |
| S | G | m Y | K | D | A | V | E |
| TCC | GGG | TAC | AAG | GAC | GCG | GTG | GAG |
| G | D | G | C | L | A | C | R |
| GGA | GAC | GGC | TGC | | GCT | TGT | AGG |
| 9 | | D | S | V | S | S | A |
| 660 | GGC | GAC | TCC | GTG | AGC | AGC | GCG |
| Q | Q | M | E | W | C | S | Y |
| CAG | CAG | ATG | GAG | TGG | | TCC | TAC |
| C TGC | R AGA | C T E C | D GAC | 9 9 | PCCC | D GAC | G G G |
| A GCA | S AGC | D GAC | C TGT | V GTG | PCCT | C TGT | S |
| L | GGG | ACT | A GCC | E GAA | P CCG | E GAG | I ATC |
| CHGT | D GAT | C TGC | T ACA | $_{ m TGT}$ | E GAG | E GAA | $_{\mathrm{TGT}}^{\mathrm{C}}$ |
| D GAC | GGA | L CTG | C L L C L | EGAG | A GCC | C TGC | GAG |
| P | S | P | I | ტ | A | T | K |
| | AGC | CCG | ATC | ტტ | GCG | ACG | AAA |
| G GGT | CTGC | 9 660 | S AGC | C | C TGT | Y TAC | C |
| Y | H | Q | H | D | E | S | N |
| TAC | CAC | CAG | CAC | GAC | GAG | TCC | AAC |
| T | | Y | T | R | D | Ğ | GGA |
| ACC | GGC | TAC | ACC | AGA | GAC | GGC | |

Fig. 6B

| | | | | | 81 / 10 |)9 | |
|----------------------------------|----------------------|--|----------------------|---|---|--|----------------------|
| 311 1046 | 331 | 351 1166 | 354 1175 | 1254 | 1333 | 1412 | 1432 |
| T ACT | V GTG | E GAA | | AGT | TLG | AAA | |
| N AAT | C TGT | R CGC | | CTGC | TTGG | AAAA | |
| Y TAC | A GCC | S TCC | | FICTO | TTTC | AAAA | |
| C TGC | D GAT | P | | JBCC | TGCZ | CAAZ | • |
| NAAAC | E GAA | L | | AGGAT | ACAGO | TAAI | |
| EGAA | T ACG | Q CAG | | CTGZ | TAA | TAGG | |
| N AAC | E GAA | T ACA | | ופפכנ | rcccı | CATTO | |
| K AAA | E GAA | P CCG | | AATGI | TTG | GACC | |
| R AGG | F TTC | S AGC | | GAA7 | TCAI | AAATI | |
| V GTG | 9 9 | E GAA | | CCGT | BATTC | AATAA | |
| $_{ m TGT}$ | D GAC | G GGA | | GTC | GTT | TLGI | |
| TACC | PCCT | E GAA | | 1GGA1 | AACC | TCT | |
| K AAA | C TGT | T ACA | | AGA | CTCI | ACAGI | |
| S L A E K TCA CTA GCA GAA AAA | V GTG | A GCC | | PATT | TGC1 | GAT | |
| A GCA | Y V C TAC GTC TGT | E GAA | | AAATI | CTGCC | TTT | 7) |
| L CTA | V GTC | A GCT | | TLLE | BAGG | TATE | PAGAC |
| S TCA | $^{ m Y}$ | E GAG | | ACCC | GGAG | ACTTO | CGCI |
| C H GC | S AGC | P A E A E A T CCG GCA GAG GCT GAA GCC ACA | * TAA | TGTGCCGGACTTACCCTTTAAATTATTCAGAAGGATGTCCCGTGGAAAATGTGGCCCTGAGGATGCCGTCTCCTGCAGT | GGACAGCGGCGGGGAGAGGCTGCTCTCTAACGGTTGATTCTCATTTGTCCCTTAAACAGCTGCATTTCTTGGTTG | TTCTTAAACAGACTTGTATATTTTGATACAGTTCTTTGTAATAAATTGACCATTGTAGGTAATCAAAAAAAA | AAAAAGGGCGGCCGCTAGAC |
| E GAG | P G CCA GGG | P | D L * GAC CTG TAA | 3CCGC | AGCC | TAAZ | AAGGC |
| D GAC | P CCA | P CCG | D GAC | TGT | GGAC | TTC1 | AAAI |

Fig. 6C

Fig. 6D

| 60 VTAWEEKSLSKYEF VTAWEEKTLSKYES 60 70 130 130 CCLPGTYGPDCQEC 130 140 200 200 210 270 270 270 270 270 270 270 270 270 280 340 RRSGRGKSHTATL : : : : : : : : : : : : : : : : : : : | |
|--|--------|
| C MHLPPAAAVGLL-LLILPPPARVASRKPTMCQRCRALVDKFNQGMANTARKNFGGGNTAWEEKSLSKYEF H MRLPRRAALGLLPLLLPPAARKPPECHRCRGLVDKFNQGMVDTAKKNFGGGNTAWEEKSLSKYES 10 | |
| 20 30 40 LPPPARVASRKPTMCQRCRALVDKFNQGN 20 30 40 20 30 40 110 110 DFECNQLLEQHEEQLEAWWQTLKKECPNI 20 100 110 110 170 180 DGSRQGDGSCQCHVGYKGPLCIDCMDGYF 230 240 250 ACVDVDECAAETPPCSNVQYCENVNGSYT 230 240 250 ACVDVDECAAETPPCSNVQYCENVNGSYT 230 240 250 320 240 320 ETKVCKKENENCYNTPGSFVCVCPEGFEE 300 310 320 ETKVCKKENENCYNTPGSFVCVCPGFEE 300 310 320 | |
| 20 :::::::::::::::::::::::::::::::::::: | |
| 10 20 30 40 50 60 | 거 I |

Fig. 6E

H EDL

Fig. 6F

| I'A S | 7 · · · · · · · · · · · · · · · · · · · | (4 ·· 4 | _ EL O |
|--|--|--|--|
| 320 AGAT: ::: | 390 AGCTA: : ::. | 460 ACTGAI :::: ACTGAI | 530 CCTTG: :: :: |
| CCTGG:::: | GGAGC::::: GGAGC | CACAC : :: AAGAC 480 | AGAGG ::::: AGAGG 550 |
| 310 CGGCT :: :: | 380 CATGA(:: :: | 450 GTGTA(::::: | 520 GTCTCZ |
| AGATT:::::::::::::::::::::::::::::::::: | AACAG: | STTCT(::::: STTTT(470 | GGTGG(:: :: GGCGG/ 540 |
| 300 CAGTG | 370 CTTGGZ :::: | 440 SAGTG(::::: | 510 5CCAGC 5CCAGC |
| GAATT(:::.:GAGTC(320 | AACT-(: : : AGATGG | CATTTC::::::::::::::::::::::::::::::::: | GGAATC:::::::::::::::::::::::::::::::::: |
| 0 320 310 320 CTGTCCAAGTACGAATTCAGTGAGATTCGGCTCCTGGAGAT :::::::::::::::::::::::::::::::: | 330 340 360 360 370 380 390 390 390 390 390 390 390 390 390 39 | 430 TAACCT | 480 |
| GTCCAA :::::: GTCCAA 310 | GAATGC::::: ::::::: :GAATGC 380 | .GCCCT ::: | AGACT::::::::::::::::::::::::::::::::::: |
| 280 AGTCTC | 350 ACTITC ACTICC | 420 GGAGT :::: | 490 GGGCC :::: |
| 70 AGGAGAAGAG:::: AGGAAAAGAC | CAACGP:::::CAGCGP370 | ::::: ::::: :AAGAG | CCTAT::CCTACCCTAC |
| 270 GAGGA ::::: GAGGA | 340 ACAGC :::: | 410 .CACTG .::: | 480 AGGCA :::: |
| 260 AACACGGCGTGG ::::::::::::::::::::::::::::::: | TGTGTG::::::TGTGCG | GCAGA::::: | CTTCCA :::: TCTCCA 500 |
| 260 .cacgg .:::: .cacgg | 330 GGAGGCCTGTGT ::::::: GGAGGGGCTGTGC 0 | 400 TGGTG ::::: | 470 ATGCTGT .::::: |
| 260 270 280 320 300 310 320 | 330 33 TGGAGGCCTGTGTGA(:::::::::::::::::::::::::::::::: | 400 410 420 430 440 450 460 c 460 460 c AGGCCTGGTGCCAGAGAGGAGTGCCCTAACCTATTTGAGTGGTTCTGTGTACACACTGAA ::::::::::::::::::::::::::::::::::: | 470 480 500 510 520 530 C AGCATGCTGTCTTCCAGGCACCTATGGCCCAGGCTGTCAGGGTGGGT |
| C H | D H | U H | O H |

Fig. 6G

| 600 STAGGAT .:.:.: | 670 CAGCTT ::::: | 740 GTGCGAA ::::: | 810 CCTGCA ::::: |
|---|--|---|---|
| 590 CAGTGTCACC | 660 ACGAGACCC?:::::::::::::::::::::::::::::: | 730 scrgrgrggag ::: ::: crgcggcgag | 800 GAGACCCCAC :::::::::::::::::::::::::::: |
| 580 ACGGGTCCTGC ::::::::: ACGGGTCCTGC | 650 TTGCTGAGGA : ::: ::: TCGCTCCGGA | 720 CCAACAAAGG :::::::: CCAACAGAGA(| 790 GTGTGCAGCA:::::::::::::::::::::::::::::: |
| 540 550 560 600 AGCGGGAATGGCCACTGCGAGATGGCAGCAGGGCGACGGGTCCTGCCAGTGTCACGTAGGAT :::::::::::::::::::::::::::::::: | 610 620 630 640 650 660 670 C ACAAGGGCCCCTGTGTATCGATGCATGCTTCAGCTTGCTGAGGAACGAGACCACAGCTT :::::::::::::::::::::::::::::::::: | 680 730 740 CTGCACAGCCTGTGATGAGTCCTGCAACCAACCAACAAAGGCTGTGTGGAGTGCGAA :::::::::::::::::::::::::::::::::: | 750 760 770 780 790 800 810 GTGGGCTGGACACGTGTGTGGATGTTGACGAGTGTGCAGCAGAGACCCCCACCCTGCA :::::::::::::::::::::::::::::::::::: |
| 560 GATGGCAGCA :::::::::::::::::::::::::::::::: | 630 GCATGGATGG :::::::::::: | 700 ::::::::::::::::::::::::::::::::::: | 770 GCCTGTGTGG ::::::::: GCCTGTGTGG |
| 550 CTGCGACGGA ::::::::: CTGCAGCGGA | 620 TGTATCGACT :::::: TGCACTGACT | 690 ATGAGTCCTG : :::::: ACGAGTCCTG | 760 TGTGGAGGAT ::::: GGACGAGGGC |
| 540 GGGAATGGCCACT :::::::::: GGGAATGGCCACT 570 | 610 ACAAGGGGCCGCTGTG :: ::: ::::: ACCAGGGCCCGCTGTG 630 640 | 680 TGCACAGCCTGTGA ::::::::::: TGCACAGCCTGTGA | 750 TGGGCTGGACACG ::::::::: TGGGCTGGGTGCT 780 |
| C AGCG :::: H AGCG 560 | C ACAA ::: H ACCA 630 | C CTGC :::: H CTGC 700 | C GTGG :::: H GTGG |

Fig. 6H

| 880 GTGTGGG :::::: GTGTGGG | 950 AGAGIGT ::::: ACAGIGT | 1020 AATACTC :::::: | 1090 ACAGCAG :.::: |
|---|--|---|--|
| 870 880 ATTCTACCTGTGTGG : :::::::::::::::::::::::::::::: | 940 3CAGAAAGG; : : : : : 3GAGCACGG; | 1010 AACTGCTAC: ::::::: | 1080 GTGTACAGA :::::::: |
| 860 AAGAGTGTG ::::::: AAGAGTGTG | 930 CTACAGCAA(::::. :. CTACGCGAG(| 1000 GAAAATGAGZ .:::::: AAAAACGAAZ 1030 | 1070 GAAGATGCTT:::::::::::::::::::::::::::::: |
| 820 830 840 850 860 870 880 GCAATGTACAGTACTGTGAAAATGTCAACGGCTCCTACACATGTGAAGAGTGTGATTCTACCTGTGTGGG ::::::::::::::::::::::::::::: | 890 910 920 920 930 940 950 CTGCACAGAAAGAGAGAGAGTGTTCTCTGGCTACAGCAAGCA | 960 970 1010 1020 GCAGATATAGATGCTCATTAGAAACAAAGGTGTGTAAGAAGGAAAATGAGAACTGCTACAATACTC :::::::::::::::::::::::::::: | 0 1050 1060 1070 1080 1090 TGTGTCCGGAAGGTTTCGAGGAAGACAGATGCTTGTGTACAGACAG |
| 840 AACGGCTCCT :::::::: AACGGCTCCT | 910 GTAAAGAGTG :::::::: GTAAAGAGTG | 0 TCATTAGAAACAAAGGTG:::::::::::::::::::::: | 1050 GGAAGGTTTCG :: :::: TGACGGCTTCG 1080 |
| 8 BAAATGTCP::::::::::AGAACGCCP | 0 :AGCCAATTG :::::: AGGAAACTG 930 | 0 TCATTAGAA ::: :: : TCACTAGCA | 0 10 TGTGTCCGG:::::::::::::::::::::::::::::: |
| 20 83 ACAGTACTGTG .:::::::: GCAGTTCTGTA 850 | 890 GCACAGGAAAAGGCCC; :::::::::::::::::::::::::::::::::: | 97 GATGAATGC:::::: GACGAGTGC' | 1040 TTGTCTGCG' TTGTCTGTG' 1060 |
| | 890 CTGCACAGG :::::::: CTGCACAGG | 960 GCAGATATAGATGAATGC :::::::::::::::::::::::::::::::::::: | 1030 104 :::::::::::::::::::::::::::::::::::: |
| U H | U H | O H | C H H |

Fig. 61

Fig. 6.1

| stcgacccacgcgtccgtcctgcgcccccagcctctcctcacgctcgcgcagtctcgccgccgcagtctcagctgcagctg | ACGCGTCCGT AGCCGTGCAC | GTCCGT | GTC | 5 5 | TGCC | GCCC | CAGC | CTCT | CCTC | ACGC | CTCG | CGCA(| CAGCCTCTCTCACGCTCGCGCAGTCTCCGCCGCAGTCTCAGCTGCAGCTG CCCCCGGAGGAGGCGACAACTTCGCAGTGCCGCGACCCAACCCCAGCCCT | CCGC | GGCA(| STCT(| CAGC | rgca(| SCIG | 79 |
|---|----------------------------------|----------------------------|----------------------|----------------|----------|---------------|----------|----------|-----------------------|------------------|------------|------------|--|------------|------------|------------------|------------|----------------------------|----------|------------|
| M A Q L F GGTAGCCTGCAGC ATG GCC CAG CTG TTC | M A Q L ATG GCC CAG CTG | M A Q L ATG GCC CAG CTG | A Q L GCC CAG CTG | Q L CAG CTG | L CTG | I F TG TTC | F TC | | L CTG (| P CCC (| L CTG (| L CTG (| A GCA (| A GCC (| L CTG (| V GTC (| L CTG (| A GCC (| Q CAG | 7 |
| P A A L A D V CCT GCA GCT TTA GCA GAT GTT C' | A L A D V GCT TTA GCA GAT GTT | L A D V TTA GCA GAT GTT | A D V GCA GAT GTT | D V GAT GTT | V GTT | | ີ ບ | L CTG | E GAA | G GGA | D GAC | S AGC | S TCA | E GAG | D GAC | R CGC | A GCT | F T T T T T | R | 28 |
| R I A G D A P CGC ATC GCG GGC GAC GCG CCA C' | A G D A P GCG GGC GAC GCG CCA | G D A P | D A P GAC GCG CCA | A P GCG CCA | P CCA | | ' ' Ū | L | Q CAG | G G G G | VGTG | L | GGC | G GGC | A GCC | CIC | T ACC | I ATC | PCCT | 340 |
| H V H Y L R P CAC GTC CAC TAC CTG CGG CCA C | H Y L R P CAC TAC CTG CGG CCA | Y L R P TAC CTG CGG CCA | L R P CTG CGG CCA | R P CGG CCA | P CCA | | Ü | P CCG | P CCG | S AGC | R CGC | R CGG | A GCT | VGTG | L CTG | 9 9 9 9 | S TCT | P CCG | R CGG | 76 |
| K W T F L S R AAAG TGG ACT TTC CTG TCC CGG G | T F L S R ACT TTC CTG TCC CGG | F L S R TTC CTG TCC CGG | L S R CTG TCC CGG | S R TCC CGG | R CGG | | <u> </u> | 9 9 | R CGG | E GAG | A GCA | E GAG | V GTG | L CTG | V GTG | A GCG | R CGG | G GGA | V GTG | 96 460 |
| V K V N E A Y GTC AAG GTG AAC GAG GCC TAC C | V N E A Y GTG AAC GAG GCC TAC | N E A Y AAC GAG GCC TAC | E A Y GAG GCC TAC | A Y GCC TAC | Y TAC | | , ' Ŭ | R | H T T T T | R CGC | VGTG | A GCA | L CIG | P CCT | A GCG | Y TAC | P CCA | A GCG | S | 116 |
| T D V S L A L S ACC GAC GTC TCC CTG GCG CTG AGC | V S L A L GTC TCC CTG GCG CTG | S L A L TCC CTG GCG CTG | L A L CTG GCG CTG | A L GCG CTG | Γ | | Y A | υ O | E GAG | $_{ m L}$ | R GGC | CCC | N AAC | D GAC | S TCA | GGT | I ATC | $rac{Y}{TAT}$ | R CGC | 136 580 |

89 / 109

Fig. 7A

| | | | | 90 / | 109 | | |
|------------|------------|----------------------|-------------|---|----------|-------------|------------------|
| 156 640 | 176 700 | 196 | 216 820 | 8 8 8 0 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 256 3 | 276 1000 | 296 1060 |
| Ğ GGG | Q CAG | Y TAC | P | N AAC | N AAT | Y TAC | GGT |
| K | A | A | Y | R | L | A | D |
| AAA | GCC | GCC | TAT | CGG | CTA | GCG | GAT |
| V | G | A | R | V | D | R | M |
| GTC | GGG | GCC | AGG | GTC | GAC | CGG | |
| K AAG | ST | $_{\rm TAT}^{\rm Y}$ | V GTG | 999 | E GAA | A GCA | A GCC |
| V GTC | F | L | T ACC | P CCC | A GCT | E GAA | A GCA |
| E | S | Q | Q | F | Y | E | Y |
| GAG | | CAG | CAG | TTC | TAT | GAG | TAT |
| V | F | E | D | g | C | L | CIG |
| GTG | TTC | GAG | GAT | gg | TGT | TIG | CIG |
| A | A | P | S | D | Y | T | Q |
| GCT | GCT | | TCG | GAT | TAC | ACA | CAA |
| D GAC | Y TAT | T ACC | CIG | M ATG | V GTG | L CIG | U U U U |
| S | R | A | ₩ | D | D | K | T |
| AGC | CGC | GCC | ∏GG | GAC | GAT | AAG | ACG |
| S | A | I | | GGA | Y | E | T |
| AGC | GCC | ATC | GG G | | TAT | GAG | ACC |
| D | S | H | A | Y | CIC | P | A |
| GAC | TCT | CAC | GCT | TAC | | CCA | GCC |
| D GAT | GG G | A GCC | DGAT | C H U | D GAC | P CCT | I ATT |
| I ATC | E GAG | G GGA | n E E | A GCC | D GAT | D GAC | E GAG |
| G | R | I | Q | E | PCCG | G | A |
| GGC | CGA | ATT | CAA | GAG | | GGT | GCA |
| H | Y | R | E | R | D | L | G |
| CAC | TAC | | GAG | CGA | GAC | CTG | GGT |
| Q CAG | CIC | A GCC | Y TAT | P CCA | V GTG | F | R CGG |
| V GTC | F TTT | C TGT | 0 0 0 | T ACC | V GTG | L CTG | E GAG |
| E | V | A | | Q | G | E | Q |
| GAG | GTC | GCC | GGG | CAG | GGT | GAA | CAG |
| C TGT | VGTC | E GAG | CTT | I ATC | Y TAT | GGA | C TGC |

Fig. 7B

| | | | | 01 | / 100 | | |
|-------------|----------|-------------|-------------|----------------------|-----------------------------|-------------|-------------|
| 316 1120 | 336 | 356 1240 | 376 1300 | 39 8 1360 1360 | 7 109 1 4 2 0 1 4 2 0 | 436 1480 | 456 1540 |
| V GTC | P | S TCG | GGA | A GCC | GGT | T ACA | E GAA |
| I | F | D | D | E | G | E | E |
| ATC | TTC | GAC | GAT | GAA | GGA | GAA | GAA |
| PCCC | L | R CGA | S TCT | Q CAG | G GGA | F TTT | E GAG |
| Y | F | F | A | P | D | E | T I G |
| TAC | TTC | TTC | GCC | CCT | GAC | GAA | |
| R CGC | L | C TGC | P CCA | L CIG | E GAG | $_{ m CTA}$ | A GCA |
| V GTG | TACT | Y TAC | N AAC | Q CAG | M ATG | L | K AAG |
| S AGT | K AAG | V GTC | S | L | IATC | T ACG | GGT |
| 9 | V | N | A | E | P | R | E |
| 66C | GTC | AAC | GCC | GAA | CCC | AGG | GAA |
| D | G | F | P | E | I | P | E |
| GAT | | TIC | CCA | GAG | ATC | CCT | GAG |
| A | P | R | N | L | S | A | E |
| GCT | CCT | CGC | AAC | CTG | TCC | GCC | GAA |
| L | L | S | S | T | Y | E | S |
| CTA | TTG | AGC | TCC | ACC | TAC | GAG | TCA |
| W | 9 | H | A | E | I | A | F |
| TGG | 9 | CAC | GCC | GAG | ATC | GCA | TTC |
| | | K | EGAG | T | A | P | G |
| GGG | GGG | AAG | | ACA | GCC | CCA | GGG |
| P | G | N | PCCT | V | | D | T |
| CCA | GGT | AAT | | GTG | GGG | GAC | ACG |
| S AGC | C TGT | PCCC | I ATC | T ACA | R CGT | E GAA | P |
| C HGC | R CGC | T T C | A GCC | V GTC | S TCC | P CCA | P |
| H | Q | g | S | I | E | T | V |
| CAC | CAG | GGC | TCT | ATC | GAA | ACT | GTA |
| D | S | T | P | A | S | S | M |
| GAC | AGC | ACT | CCT | GCT | AGT | TCC | ATG |
| L | CCC | Q CAG | Q CAG | E GAG | E GAG | S AGC | S TCC |
| ე ტ ტ | T ACA | N AAC | A GCC | L CTA | T ACA | G GGA | Q CAA |

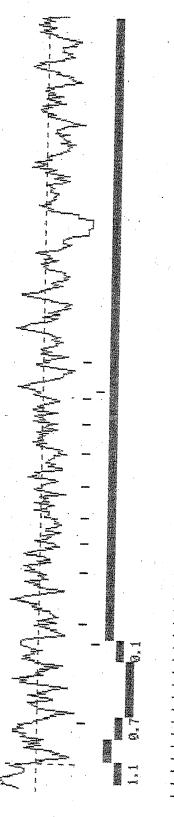
Fig. 7C

92 / 109 556 1840 576 1900 616 2020 476 1600 516 1720 536 1780 596 1960 496 1660 Q CAG GGG PCCA GGA D GAT CCC H CAT PCCT EGAG CIC L CTG V GTC S TCA S TCT LCIT S TCT L CTG GIG R AGG CCA L CTA N AAT SICT V GTC Д \gt D GAT E GAG S TCC S GAG A GCC A GCA P CCA ഥ E GAG EGAG R AGG PCCT A GCA P PCCT E GAA R AGG L CTA A GCC E GAG PCCT A GCA GGT S TCT GGT E GAA 9 9 P CCA STCC N AAC GGT PCCC PCCG A GCG R AGG T ACT E GAG A GCC A GCT E GAA E GAG E GAG Q CAG E GAA A GCA S TCC E GAA S AGC Γ R AGG E GAG S AGC E GAG S AGC S S TCA G GGA E GAG G GGG E GAG E GAG PCCC L CTC CIC V GTG T ACA R AGG T ACT K AAA E GAG S TCA GGA E GAG T ACC E GAG K AAG D GAT P E GAG SAGC GGT E GAG L CIG R AGA E GAG E GAA PCCC PCCT Q CAG GCA S AGC E GAG $\overline{\mathbf{W}}$ T ACT GAA LCTT Ø A GCC E GAG E GAG E GAG PCCT P CCA D GAT A GCA GAA W TGG A GCA S TCA TACT VGTT GGA A GCC ᢗ R CGG P CCA A GCA $_{\rm CTG}$ CGA L CTG PCCT Y TAT 召 T ACA P CCA PCCT K AAA E GAG G GGT TACT A GCT A GCC E GAG T ACT G GGA S V GTC E GAG PCCT

Fig. 7D

| | | | | | 93 / | 109 | | | |
|---|---|--|---|---|---|--|---|---|--|
| 636 2080 | 656 2140 | 672 2188 | 2267 | 2346 | 2425 | 2504 | 2583 | 2662 | 2730 |
| A GCC | A GCC | | 1.GGG | IGAC | CCT | CGCC | GAG | IGGA | |
| D S A GAC AGC GCC | T ACT | | CTA | CACI | rcago | [GTG] | rccac | GCCTI | |
| D GAC | S TCA | | CTAC | CCGC | TCC1 | GCC1 | GAG | ACAAC | 7. |
| T ACT | GGC | | ACCI | AGCC | BAGCZ | ATCC | TCCC | SAAAZ | 3008 |
| CCC | O CAA | * TGA | ACC | ATCCO | ACAG | CTTC | SAACC | SATGO | 3666 |
| V Q A Q P V L P T GTG CAG GCC CAG CCA GTG CTG CCC ACT | P A S G N S A Q G S T A CCC GCA TCA GGT AAT TCT GCC CAA GGC TCA ACT GCC | P L Q L W V T * CCC CTG CAG CTC TGG GTC ACC TGA | CTCTI | rgr <i>g</i> z | 3000 | ACTCO | CCTC | 3TTT(| AAAG(|
| V GTG | ST | V GTC | CATT | \ccc1 | SCCAC | CACTA | rcac | SACTO | 1AAA1 |
| P CCA | N AAT | W TGG | CTT | TTT | CTC | rttc | CTTC | LTTT(| 1AAA1 |
| Q CAG | G GGT | CIC | TTG | CGTC | SACAT | TAT | TCC | [ATT] | AAAA! |
| A GCC | S TCA | Q CAG | FICCI | TCCC | GCT | GGCC | 3GGA(| 3AAG1 | AAAA |
| Q CAG | A GCA | CIG | CCTG | AGCTO | TGTC | BGCTO | CCT | CTGT | AAAA |
| V GTG | P CCC | P CCC | ACTCI | CTCZ | CACC | rcago | 3GAA(| ACTT(| 1AAA1 |
| | V GTC | | CAAZ | GTA1 | CCT | CCT | rcago | AACT? | ACCA2 |
| T ACC | A V V GCC GTG GTC | F TTC | ZATCC | rgtg | regec | rgcac | BATCI | AAGC? | rgta2 |
| GGG | A GCC | L | CATO | ACCT | CCAT | TAT | ratt(| CTTZ | 3CTT. |
| A GCA | V GTG | L L CTA CTC | ccac | ATCC? | CTG | rcaco | CICC | 4GAG(| AACC(|
| P CCA | G GGA | L CTA | rtaac | 3GAT | CTTC | CTCAI | CTGC | CCAC | ATTA2 |
| T A P A G T S ACT GCC CCA GCA GGG ACC TCA | R G G V CGA GGT GGA GTG | L S I L L L F F TC TCT ATC CTA CTC CTT TTC TTC | CTGTAGTCCTTTAACCCACCATCATCCCAAACTCTCTGTCCTTTGCCTTCATTCTCTTACCCACCTCTACCTATGGG | CTCCAATCTCGGATATCCACCTTGTGGGTATCTCAGCTCTCCGCGTCTTTACCCCTGTGATCCCAGCCCCGCCACTGAC | ZATCTGTGACCCTTCCCTGCCATTGGGCCCCTCCACCTGTGGCTCACATCTCGCCAGGCCCCACAGAGCATCCTCAGGCCT | TCCAAGGGTCCTCATCACCTATTGCAGCCTTCAGGGCTCGGCCTATTTTCCACTACTCCCTTCATCCGCCTGTGTGTG | FICCCCTTTAGCTGCCTCCTATTGATCTCAGGGAAGCCTGGGAGTCCCTTCTCACCCCTCAACCTCGGGAGTCCAGGAG | AACCCGTACCCCCACAGAGCCTTAAGCAACTACTTCTGTGAAGTATTTTTTGACTGTTTCATGGAAAACAAGCCTTGGA | a ta a a a a a a a a a a a a a a a a a |
| T ACT | R CGA | S TCT | TAG | CAA | TGT(| :AAG(| CCL | CCGT | AAAT(|
| R IGA | S | L | CTC | CTC | ATC | TC | TC | AAC | \AT? |

Fig. 7E



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| Ĭ di |
| 1,15 |
| |
| 11 |

| 70 :PPPSRRA :::::: | 140 :IYRCEVQ :::::: IYRCEVQ 140 | 210 DAGWLSD :: | 280 EARAYCQER ::::::: EARAYCQER 220 | 350 FPNKHSRFNV :::::::: FPNKHSRFNV |
|--|---|--|---|--|
| 60 ::PCHVHYLR ::::::::: | 130 SELRPNDSG:::::::::::::::::::::::::::::::::::: | 200 AYLGGYEQC | 270 DPPEKLTLEEA :::::::: DPPEKLTLEEA 210 | 340 FPNQTGFPN:::::: FPNQTGFPN: 280 |
| 50 LQGVLGGAL1 :::::::: LQGVLGGAL1 50 | 120 ASLTDVSLAI ::::::::: | 190 HIATPEQLYA | 260 INGELFLGDP:::::::::::::::::::::::::::::::::::: | 330 SLPGVKTLFL::::::::::::::::::::::::::::::::::: |
| 40 50 60 70 RAFRVRIAGDAPLQGVLGGALTIPCHVHYLRPPPSRRA ::::::::::::::::::::::::::::::::::: | 110 .FRVALPAYP; ::::::: FRVALPAYP; 110 | 180 QEACARIGAI | 250 260 LYDVYCYAEDLNGELFLG:::::::::::::::::::::::::::::::::: | 320 330 VTPSQRCGGGLPGVKTL:::::::::::::::::::::::::::::::::::: |
| 20 50 60 PAALADVLEGDSSEDRAFRVRIAGDAPLQGVLGGALTIPCHVHYLRP ::::::::::::::::::::::::::::::::::: | 90 100 110 140 'AEVLVARGVRVKVNEAYRFRVALPAYPASLTDVSLALSELRPNDSGIYRCEVQ :::::::::::::::::::::::::::::::::::: | 170 ARYAFSFSGA | 240 NYGVVDPDDL :::::::::::: NYGVVDPDDL 180 | 310 GWLADGSVRYPI :::::::: GWLADGSVRYPI 250 |
| 20 30 DAPAALADVLEGDSS::::::::::::::::::::::::::::::::::: | 90 KEAEVLVARG :::::::::: KEAEVLVARG | 160 3VVFLYREGS. | 230 240 DMDGFPGVRNYGVVDP::::::::::::::::::::::::::::::::::: | 300 GLDHCSPGW]:::::::::::::::::::::::::::::::::::: |
| 10 | 80 VLGSPRVKWTFLSRGRE ::::::::::::::::::::::::::::::::::: | 150 160 200 210 HGIDDSSDAVEVKVKGVVFLYREGSARYAFSFSGAQEACARIGAHIATPEQLYAAYLGGYEQCDAGWLSD :::::::::::::::::::::::::::::::::::: | 220 230 240 250 260 270 280 QTVRYPIQTPREACYGDMDGFPGVRNYGVVDPDDLYDVYCYAEDLNGELFLGDPPEKLTLEEARAYCQER : ::::::::::::::::::::::::::::::::::: | 290 340 350 350 330 350 350 350 340 350 350 340 350 350 340 350 350 340 350 350 340 350 350 340 350 350 340 350 350 350 350 350 350 350 350 350 35 |
| 332 MA(::: | 332 VLC ::: BEF VLC | 332 HGI ::: BEF HGI | 332 QTV : BEF Q | 332 GAE ::: BEF GAE |

Fig. 7G

| 360 370 380 400 410 2 YCFRDSAQP-SAIPEASNPASDGLEAIVTVTETLEELQLPQEATESESRGAIYSIPIMEDGGGGSS :::::::::::::::::::::::::::::::: | 420 430 440 450 460 470 480 332 TPEDPAEAPRTLLEFETQSMVPPTGFSEEEGKALEEEEEKYEDEEEKEEEEEEVEDEALWAWPSELSSP ::::::::::::::::::::::::::::::::::: | 490 520 520 530 540 550 332 GPEASLPTEPAAQEKSLSQAPARAVLQPGASPLPDGESEASRPPRVHGPPTETLPTPRERNLASPSPSTL :::::::::::::::::::::::::::::::::::: | 560 570 580 590 600 610 620 332 VEAREVGEATGGPELSGVPRGESEETGSSEGAPSLLPATRAPEGTRELEAPSEDNSGRTAPAGTSVQAQP ::::::::::::::::::::::::::::::::::: | 630 640 650 660 670 332 VLPTDSASRGGVAVVPASGNSAQGSTALSILLFFPLQLWVT | IVI |
|--|--|---|--|--|-----|
| 332 YCI :: BEF YCI | 420 332 TPE ::3 BEF TPE 360 | 490 332 GPE ::: BEF GPE 430 | 560 332 VE? ::: BEF VE? 500 | 630 332 VLF | BEF |

Fig. 7H

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| SRRA :::: SRRA 70 | EVQ ::: EVQ 140 | % ∴ % 10 0 1 | LER .:: OER 280 | .: 7.1.7.7.7.1.7.1.7.1.7.1.7.1.7.1.7.1.7.1 |
|--|--|--|--|--|
| X Y X X X X X X X X X X X X X X X X X | ス・ス ス・・区 ス・・区 | 3WL 3WL 2 2 | YCL YCQ YCQ | NRF. |
| | IXI: | DA(:: DA(| RD. | KOI HX |
| K :: K | 0 0 0 0 0 0 0 | | 2 · · · · · · · · · · · · · · · · · · · | . H P P P S |
| 09 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. | 130 RPND :::: RPND 130 | 200 GGYE :::: GGYE 200 | 270 LIWE:: LITLE: 270 | 340 TGF ::: TGF 40 |
| PCH: | 면 면 님 님 때 ㄸ ㅡ | YLG YLG 2 | SKI SKI Z | PNO' FNO' PNO' |
| TY. · I | 7. S. | 7AA. :: | .: .:)PP] | 년 · 년 년 · 년 |
| 0 GAI ::: GAI | 0 SLV SLZ | 0 0 0 0 0 0 0 | 0 LGZ .: | 1 : |
| 50 7LGG :::: 7LGG 50 | 120 TDVS:::: TDVS | 180 190 200 AGAQEACARIGARIATPEQLYAAYLGGYEQCDAGWLS .:::::::::::::::::::::::::::::::::::: | 260 260 260 260 | 330 GVKT :::: GVKT 330 |
| RGV OGV | ST. ST. | IA | | |
| AQI API | YPA ::: YPA | GAR .:. | H :: H | O |
| 40 -GA. :. AGD. | 0 | 30 ARI ARI | 7YA 7YA 7YA | 20 28 C |
| RI- RIA RIA 40 | 110 .vALP .::: .vALP 110 | 180 ACAR :::: ACAR 180 | 250 VYCY VYCY 250 | 320 PSQR :::: PSQR 320 |
| TRV TRV | 7 | 40E 10E | :: CXD | III IVI |
| RAI :: | AYI :: AYI | 'AG2' .: 'SG2' | | д д Х |
| 30 | 100 KVNE :::: KVNE | 170 AFSE :::: AFSE 70 | 240 VVGE :::: | 310 GSVR :::: GSVR |
| 30 30 30 30 30 | 90 100 110 120 130 REVEVLVARGLRVKVNEAYRFRVALPAYPASLTDVSLVLSELRPNDSGVYRCEVQ :::::::::::::::::::::::::::::::::::: | 160 170 3VVFLYREGSARYAFSF: :::::::::::::::::::::::::::::::::: | 24 (GVV) (GVV) 240 | 300 340 GGLDRCSPGWLADGSVRYPIITPSQRCGGGLPGVKTLFLFPNQTGFPSKQNRFNV :::::::::::::::::::::::::::::::::::: |
| LKE LEC | GUE | SAE ::: SAE | RN) | WL.7 .::; WL.7 |
| ADD:: | VAR ::: VAR | ス ・・ 日 ス の ・・ 日 | PGV ::: | 8 B B B |
| 20 AALZ ::: AALZ 20 | 90 EVL ::: EVL 90 | 160 FLYI ::: FLYI 60 | 230 DGY] ::. DGF] 30 | 300 DRCS :.: DHCS |
| 20 2APAALAD ::::::: 2APAALAD 20 | 五 ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ | 16 VVFL :::: VVFL 160 | 23 DMC :::: DMC 23 | 30 GLDR :::. GLDH 300 |
| T. O. | 5DR | 7KG | 78G | VNG : • : |
| | LSC :: LSF | VK\ ::: | EA(::: EA(| AAV ::: :AAV |
| 10 LAA ::: LAA 10 | 80 PRVKWTFLS :::::: PRVKWTFLS 80 | 150 AVE::: | 220 QNPR: :: QTPR: 220 | 290 290 301X 301X |
| SLI | VKI :: VKI | :: :: :: 1. | 1012222 | 3.1.G. |
| H * H H · H | 표 유 아 아 아 아 | 300 300 300 | RYE ::: RYE | IAS ::: IAI |
| 10 20 30 40 50 60 M MIPLLISLLAALVLTQAPAALADDLKEDSSEDRAFRVRI-GAAQLRGVLGGALAIPCHVHHLRPPRSRRA : .::::::::::::::::::::::::::::::::::: | 70 80 100 110 120 130 M APGFPRVKWTFLSGDREVEVLVARGLRVKVNEAYRFRVALPAYPASLTDVSLVLSELRPNDSGVYRCEVQ . ::::::::::::::::::::::::::::::::::: | 140 150 200 M HGIDDSSDAVEVKVKGVVFLYREGSARYAFSFAGAQEACARIGARIATPEQLYAAYLGGYEQCDAGWLSD :::::::::::::::::::::::::::::::::::: | 210 220 230 240 250 260 270 M QIVRYPIQNPREACSGDMDGYPGVRNYGVVGPDDLYDVYCYAEDLNGELFLGAPPSKLTWEEARDYCLER :::::::::::::::::::::::::::::::::::: | 280 330 340 M GAQIASTGQLYAAWNGGLDRCSPGWLADGSVRYPIITPSQRCGGGLPGVKTLFLFPNQTGFPSKQNRFNV :::::::::::::::::::::::::::::::::::: |
| Z : Z Z H | 70 M A H V | 140 M Hi | 210 M M H Q | 7 × G 2 × G |
| | | | | |

Fig. 7I

| 410 DGGGGSST :::::: DGGGGSST 420 | ::::: :::::::::::::::::::::::::::::::: | 30 -ATSTPGG ::. LASPSPST 600 VLAGTSVQ :::::: APAGTSVQ | 670 WEAFQ |
|--|--|---|--|
| 410 SIPISEDGGGG ::::::::: SIPIMEDGGGGG 410 | 470 LWVWPRELSS ::::::: EALWAWPSELSS 480 | $SP \cdot C$ | 660 DVGLHFCSPG |
| 400 SESRGAIY: :::::: | EKEQED : :.: EEEEEEVED] 470 | 520 :::::::::::::::::::::::::::::::::::: | GYGGDLCD |
| 80 390 40 TEKLEELQLPQEAMESESRGA :: :::::::::::::::::::::::::::::::::: | 460 DLEALEEE : : :: | PPRFR ::::: EASRPPRVH 530 580 PATWAPVGP :::::::: | 650 GFRCLCLP |
| 70 380 390 400 410 -DGLEAIVTVTEKLEELQLPQEAMESESRGAIYSIPISEDGGGGSS::::::::::::::::::::::::::::::: | 440 450 460 470 QSIAPPTESSEEEGVALEEERFKDLEALEEEKEQEDLWVWPRE :::: :::: :::::::::::::::::::::::::: | 500 510 520 530 530 530 530 550 530 530 530 520 530 550 550 550 550 550 550 550 550 55 | 610 620 630 640 650 660 670 AQPVLPTDSASHGGVAVAPSSGDCIPSPCHNGGTCLEEKEGFRCLCLPGYGGDLCDVGLHFCSPGWEAFQ ::::::::::::::::::::::::::::::::::: |
| 370 3 SPASDGLEAIVTV ::: :::::::::::::::::::::::::::::::: | 440 PTESSEEEGV :: :::: PTGFSEEEGF | 500 SQVSPPAQAVLQLDP : .::::::::::::::::::::::::::::::::::: | 20 630 .VAPSSGDCIPSPCHN:.:::: |
| | 30 SET FET | 490 5 -EHSLSQVSPPAQ: ::: :::: QEKSLSQAPAR 510 550 GSPELSGVPR-ES:::::::::::::::::::::::::::::::::::: | 620 GGVAVAPSSG :::::::: GGVAVVPASG |
| 350 360 M YCFRDSAHPSASSEAS ::::::::::: H YCFRDSAQPSAIPEAS 360 | APRTPL:::: : APRTILL | GSET 500 GGET GGET 57 | 610 AQPVLPTDSASHGGVA :::::::::::: AQPVLPTDSASRGGVA 630 |
| 350 M YCFF :::: H YCFF | 420 M PEDPAE ::::: H PEDPAE | 480 MLPT ::: H PEASLPT 540 MAREV ::: H LVEAREV 560 | M AQPV :::: H AQPV 630 |

Fig. 7J

| 740 | SUGAFLLY | | 810 RPRLRYAV | | 880 APLTPPSS | |
|-----|--|----------|--|------|---|----------|
| 730 | KIIEGUFLW | | 800 QLPLAQIFG | DTG | 870 RGQLSRHRK | |
| 720 | KIKEIQWIGLNU | 099 | 790 CKMGLVSCGPPP | | 860 RALRSMDAPEGP | |
| 710 | | | 780 /PCNYHLSYT | | 850 JISCVPRRPG | |
| 700 | | d 2 | 770 WHDQGQWSDV | | 840 QENGLWEAP(| :: . |
| 690 | WEFAESOCK! | | 760 TLSGENCVVM | . [H | 830 JAQRNLPLIRC | |
| 680 | M GACIKHFSIKKSWEEAESQCKALGARLISICIFEEQDF VNDKIKEIQWIGLNDKIIEGDFLWSDGAFLLI .:. | | 750 760 770 780 790 800 810 M ENWNPGQPDSYFLSGENCVVMVWHDQGQWSDVPCNYHLSYTCKMGLVSCGPPPQLPLAQIFGRPRLRYAV | | 820 830 840 850 860 870 880 M DTVLRYRCRDGLAQRNLPLIRCQENGLWEAPQISCVPRRPGRALRSMDAPEGPRGQLSRHRKAPLTPPSS | |
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Fig. 7k

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| 50 GCGCAGTC :::::: | 120 GGAGGCGA ::: GCAA | 190 TTCCTGCCC : :: :: TTCTGTCC | 260 CAGCTCAG ::::::: CAGCTCGG | 330 GCCCTCAC ::::: .: GCCCTGGC |
|---|--|---|--|---|
| 40 CTCACGCTC ::::::: | 110 ACCCCGGA :::: | 180 CCCAGCTGT : .:: TACCACTGC | 250 GGAAGGAGA :•::::: GAAAGAAGA | 320 CTCGGCGGC ::::: CTGGGCGGT |
| 10 GTCG-ACCCA-CGCGTCCGTCCTGCGGCCCCCAGCCTCTCCTCACGCTCGCGCAGTC :::::::::::::::::::::::::::::::::::: | 60 110 120 TCCGCCGCAGTCTCAG-CTGCAGGACTGAGCCGTGCACCCGGAGGAGGAGGCGAA :::::::::::::::::: | 130 140 150 160 170 180 190 CAAACTTCGCAGTGCCGACCCAACCCCAGCCTGGGTAGCCTGCAGCATGGCCCAGCTGTTCCTGCCC ::: :::::::::::::::::::::::::::: | 200 210 260 260 260 240 250 260 260 250 260 250 250 260 250 250 250 250 250 250 250 250 250 25 | 270 280 330 AGGACCGCGCTTTTCGCGTGCGCATCGCGGGCGACGCGCCCTCAC :::::::::::::::::::::::::::::::: |
| 20 CCTGCGGCCC :: :: :: CCCGCGCGCC | 90 AGCCGTGCAC : : .: SACGGCGTGC | 160 TGGGTAGCC1 .::. | 230 cagcittagc : :: :: ccgcccrcgc | 300 .cgcgccacTG :::::: cgcgcagcTG |
| GT(:: TGTCTGGGT(30 | 80 GCAGGACTG; ::.:: GCGGGACGT(| SCCCAGCCC: | 220 CAGGCTCCTG(::::::: CAAGCCCCTG(200 | 290 .TCGCGGGCGA(::: :: .TCG-GTGC(|
| CGTCC :: :: :GGCGCCCC | -CTGCAGCT(::::::: CTGCGGCT(| 150 3CGACCCAACCC ::: CATC | TCCTGGCCCZ | 0 290 cGTGCGCATCGCGGGC ::::::::::::::::::::::::::::::: |
| 10 CCA-CG :: :: CCGCCGAGCT | 60 . 70 TCCGCCGCAGTCTCAG- : ::::::::::::::::::::::::::::::::::: | 140 CGCAGTGCCG | 210 CTGCTGGCAGCCCTGGT::::::::::::::::::::::: | 0 280 GCGCTTTTCGC(: ::: GAGCCTTCCGC) |
| 10 H GTCG-ACCCA-CG- :.:.::: M GAGGCTCCCGGCGA | 09 H TCCGCCGC M GC-GCCGC | 130 H CAAACTTCG ::: M -GTTCTTC- 130 | 200 H CTGCTGGC | 270 H AGGACCGCGC :::::::: M AGGATCGAGC |
| | | | | |

Fig. 7L

| 340 350 360 370 380 400 CATCCCTTGCCACGTCCACCGCCGCCGCGGCTGTGCTGGGCTCTCCGCGGGTC :::::::::: | 410 420 430 440 450 460 470 AAGTGGACTTTCCTGTCCCGGGGCCGGGAGGCTGCTGGTGGCGCGGGAGTGCGCGTCAAGGTGA :::::::::::::::::::::::::::::::: | ASGAGGCTACCGGTGGCACTGCGTACCCAGCGTCCACCGACGTCTCCCTGGCGCTTCCTGGCGCTTCCTGGCGCTTCCTGGCGCTTCTCTGGCGCTTCTCTGGCGCTTCTT | 620 630 640 650 660 670 680 GACGCTGTGGAGGTCAAAGGGGTCGTCTTTCTCTACCGAGAGGGCTCTGCCCGCTATGCTTTCT ::::::::::::::::::::::::::::::: |
|---|--|---|---|
| 340 H CATCCTTGG ::::::: M CATCCCATG | 410 H AAGTGGACT :::::: M AAGTGGACC 380 | 480 H ACGAGGCCT ::::::: M ACGAAGCCT 450 F50 H GAGCGAGCT M GAGCGAACT | 620 H GACGCTGTG :::::: M GATGCTGTG |

Fig. 7M

Fig. 7N

| 1040 1050 1060 1070 1080 1090 1100 H GGCCAACTGTATGCAGGCTGGTGGCCTGGACCACTGCAGGCTGGCT | 1110 1120 1130 1140 1150 1160 1170 H TGCGCTACCCCATCGTCACCCAGCGCTGTGGGGGGCTTGCCTGGTGTCAAGACTCTTCCT :::::::::::::::::::::::::::::: | 1180 1200 1210 1220 1230 1240 H CTTCCCCAACCAGCTTCCCCAATAAGCACAGCCGCTTCAACGTCTTCCGAGACTCGGCC :::::::::::::::::::::::::::::::: | 1250 1260 1270 1280 1290 1300 1310 H CAGCCTTCTGCCATCCCTGAGGCCTCCAACCCAGCCTCTGATGGACTAGAGGCTATCG :::::::::::::::::::::::::::::::::::: | 1320 1330 1340 1350 1360 1370 1380 H TCACAGTGACCAGGAGGAACTGCAGCTGCCTCAGGAAGCCACAGAGAGTGAATCCCGTGGGC ::::::::::::::::::::::::::::: |
|--|--|--|--|---|

Fig. 70

| 1390 1400 1410 1420 1430 1440 1450 H CATCTACTCCATCCATCATGGAGGAGGAGGTGGAAGCTCCACTCCAGAAGACCCAGCAGAGGCC :::::::::::::::::: | 1460 1470 1480 1490 1500 1510 1520 H CCTAGGACGCTCCTAGAATTTGAAACACAATCCATGGTACCGCCCACGGGGTTCTCAGAAGAAGGAAG | 1530 1540 1550 1560 1570 1580 1590 H AGGCATTGGAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAGAGGAG | 1600 1610 1620 1630 1640 1650 1660 H GGAGGATGAGGCCCAGCGAGCTCAGCAGCCCTGAGGCCTCTCTCCCCACT ::::: ::::::::::::::::::::::::::::::: | 1670 1680 1690 1700 1710 1720 H GAGCCAGCAGCCAGCCAGCCAGCCAGCCAGCCTGCTGGTG : :: :: :: :: :: :: :: :: :: :: :: :: : |
|--|---|--|---|--|
|--|---|--|---|--|

Fig. 7P

| 1730 1740 1750 1760 1770 1780 1790 1 CATCACCACTTCCTGAGGAGTCAGAGCTTCCAGGCCTCCAAGGGTCCATGGACCACCTACTGAGAC ::::::::::::::::::::::::::::::::: | 1800 1810 1820 1830 1840 1850 1860 H TCTGCCCACTCCCAGGAGGAACCTAGCATCCCCATCACCTTCCACTCTGGTTGAGGCAAGAGGGG : :: : : : : : : : : : : : : : : : | 1870 1880 1890 1900 1910 1920 1930 H GGGGAGCCAACTGGTCCTTGGGGTCCCTCGAGGAGAGAGGACAGGAAGCTCC- :::::::::::::::::::::::::::::::::: | 1940 1950 1960 1970 1980 1990 2000 HGAGGGTGCCCCTTCCCTGCTTCCAGGGCCCCCTGAGGGTACCAGGGAGCTGGAGGCCCC :::::::::::::::::::::::::::::: | 2010 2020 2030 2040 2050 2060 2070 H CTCTGAAGATAATTCTGGAAGAACTGCCCCAGCAGGGACCTCAGTGCAGGCCCAGTGCTGCCCACT ::::::::::::::::::::::::::::::::: |
|---|---|---|--|---|
| 173C H CAT : :: M CGT | 1800 H TCH | 1870 H GGG ::: M GGG | H M GCT 1840 | H CTC ::: M CTC 1910 |

Fig. 70

| 2080 2190 2110 2120 2130 GACAGCGCCAGCCGAGGTGGTCCCCGCATCAGGTAATTCTGCCCAAGGCTCA ::::::::::::::::::::::::::::::::::: | 2140 H AC-TGCCCTCTCTATCCTA-CTCCT : ::: :: :: :: :: :: :: :: :: :: :: :: | 2200 CTGTAGTCCTTT ::: :::: | 2230 CTGTCCTTT :::::: | 2270 [CTC ::: TGGGCTCAATGACAG 2320 |
|---|--|---|--|---|
| 2120 .TCAGGTAATT :::::::::::::::::::::::::::: | 2150 CTATCCTA-CT ::: :: :: GCCTATGTTTGCCAGGCTAT 2090 2100 | 2160 TTTCTTCCCCCTGCAGCTCTGGGTCACCTGACCTGTAG' : : : : :: :: :: :: :: :: :: :: :: :: : | 2220 :CAAACTCTC :.:.:::::::::::::::::::::::::::: | 2240 2250 2260TCATTCTCT-TACCCACCTCTACCTATGGGT:.: :: :: :: ::: AGACTTTGTCAATGATCGATACCGGGAGTACCAGTGGATTG |
| 2080 2100 2110 2120 GACAGCGCCAGCCGAGGTGGCCGTGGTCCCCGCATCAGGTAATT:::::::::: | 2140 CCTCTCTAT- ::::::::::::::::::::::::::::::::::: | 2170 2180 -CTGCAGCTCTGGG':::::::::::::::::::::::::::::: | 2220 TCA-TCCCAAACTCT ::::::::::::::::::::::::::::::::: | 2250 TCT-TACCCACC::::::::::::::::::::::: |
| 2090 2100 SAGGTGGAGTGGCCGTGG ::::::::::::::::::::::::::::: |) TTGGAGGAGAAGG | 2170 2CCTGCAG : ::::: | 2210 CA- :: STTGGGAGGCAG | 2240 TCATTCTCT .:::::: |
| 2080 H GACAGCGCCAGCCGA :::::::::: M GACAGTGCCAGCCAC | H AC-TGC-::: M ATGGTGGGACATGCT 2050 2060 | 2160 H TTTCTTCCCC : : : : : : : : : : : : : : : : : : : | 2210 2220 H AACCCAC——————————————————————————————— | 2240 2250 2260 2270 H GCCTTCATTCTCT-TACCCACCTCTACCTATGGGTCTC :: :: :: :: :: :: :: :: :: :: :: :: :: |

Fig. 7R

| 2280 2310 2320 HCAATCTCGGATATCCACCTTGTGG-GTATCTCAGCTCTCCGCGT-CTT-TACCCTGTG-AT : :: :: :: :: :: :: :: :: :: :: :: :: : | 2330 2340 H CCCAGCCCCGCCACTG | 2360 2370 2380 HCCCTTCC-CTGCCATTGGGCCCTCCA | 2410 2420 2430 2440 2450 H GCCAGCCCCACAGAGCATCCTCAGGCCTCTCCAAGGGTCCTCATCACCTATTGCA : :::::::::::::::::::::::::::::::::: | 2460GCCTTCAGGGCTCGGCCTATTTTCCACTAC |
|---|--------------------------------------|---|---|------------------------------------|
| HCA : M GACC 2330 | 2330 H CC :: M CCTG 2400 | H M ATGT 2470 | 2400 H GCCA(. : . M AGCTZ | HGC(:: M ATGC(2610 |

Fig. 75

Fig. 7T

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|---|------|------|------------------|--|------|
| 2700 CAAAAAAAAAAAAAA :::::::::::: TGTCGAAGAGTTTTTAGGAT | 3090 | | | | |
| CAAAA :::: TGATTGTCGAAG | 3080 | 2730 | 29 | : : : : : | 3150 |
| | 3070 | | 3GCC | : :: IGAACCCAAA | 3140 |
| 2700 H CGCTTTGTAACAAC | 3060 | 2720 | AAAAAAAAGGGCGGCC | *::::::::::::::::::::::::::::::::::::: | 3130 |
| | 3050 | | | SAGGTGGAAA | 3120 |
| ST STCCCTCGATN | 3040 | | | CCAGCAAAACC | 3110 |
| H CGCTTTGT | 3030 | 2710 | H AAA | : M GGAGTAC | 3100 |